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THE

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VOL. II.—9TH YEAR. SYDNEY: SATURDAY, AUGUST 5, 1922. No. 6.

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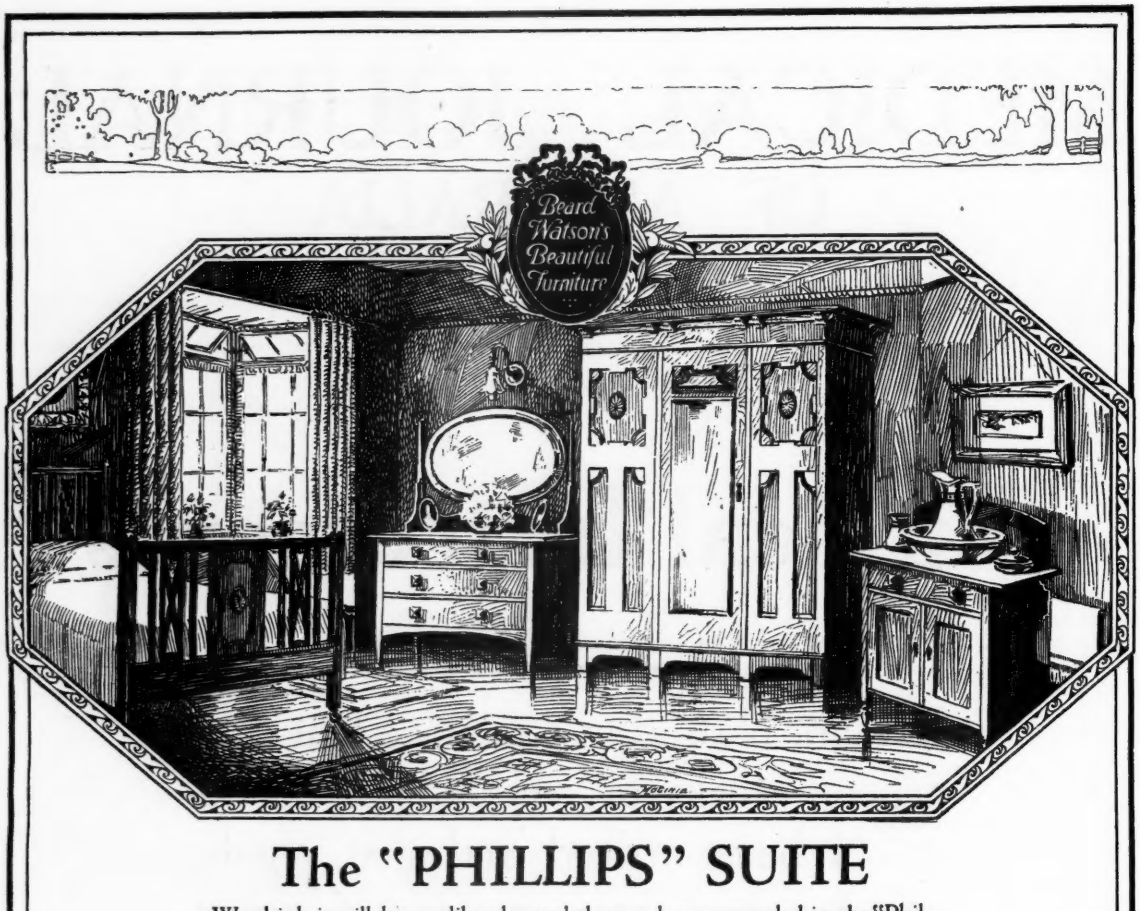

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MEDICAL JOURNALESE AND HOW TO WRITE IT.[1]

BY F. GUY GRIFFITHS, B.A., M.D.,
Honorary Physician, Royal North Shore Hospital of Sydney.

By medical journalese is understood the phraseology usually employed by contributors to medical journals. It is not suggested that this is the regular language of editors; for indeed some of these neglect it and the style of their leaders differs so greatly from that of other articles as to suggest composition in a foreign tongue.

The gifted few who have acquired the art of writing medical journalese without any conscious effort may scorn the following description. It is intended for those who have something to say and who are able to express it in ordinary English, but, desiring to offer it to medical readers, recognize the need of first translating it into medical journalese.

No claim is made to a mastery of the art, but a close study of eminent examples for many years raises the hope that the results may be of interest.

Even cursory perusal of medical journals will show that certain words are avoided. The best-known example is "patient"; one does not "attend a patient," one "has a case"; organs do not "act," they "function."

Other simple words that are simply not used, are "slice," "spoil," "lesion," "invade," "opinion," "resolve," "grow," "belly," "mortal." The two chief methods of dispensing with such words are by:

(*a*) Conventional misnomers: "Cotton" is always called "wool," "fever" "temperature," "thoracic (vertebra)" "dorsal," "frequent" "rapid," "marvel" "miracle," "necessary" "necessity."

(*b*) The over-use of other words: "Case" is used for "patient, invalid, sufferer"; "marked" for "great, striking, vivid, copious, intense, abundant"; "question" for "matter, affair, subject"; "to condition" for "to cause, to regulate, to control, to limit, to define"; "to activate" for "to arouse, to stimulate, to evoke, to provoke, to revive, to enliven"; "area" for "mass, volume, piece, part, region, district, territory, portion"; "involve" for "invade, attack, permeate, affect"; "theory" for "opinion, surmise, conjecture, guess, notion, hypothesis, idea."

We shall meet further methods of avoiding simple words when we come to consider dignified expansion, impressive substitution, slang, assurance, modesty, artificial terms.

So much for the first principle: parsimony of vocabulary.

Let us proceed next to analyse some examples in the hope of discovering other principles.

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on June 30, 1922.

We begin with a simple sentence from the pages of *The British Medical Journal*: "One of the common products of the results of war injuries is the flail joint." We notice the similarity in meaning of the two words "products" and "results." We notice the complex phrase "one of the," which we realize means no more than "a"; it then appears that the sentence means only: "A common result of war injuries is the flail joint." The last sentence is not medical journalese, but mere English. From this example we may see that two of the characteristics of medical journalese are: (1) The employment of circumlocutory phrases and (2) tautology or pleonasm.

As a second example let us take: "We are still a long way from being able to define the nature of hypnotism." One can tell at a glance that the writer is speaking of hypnotism and of defining it; due consideration shows us that the nature of hypnotism means no more than hypnotism, for, of course, one cannot define hypnotism except in terms of its "nature"; "the nature of" has been introduced only as an impressive pleonasm. In the same way "a long way from being able" is an elaborate phrase meaning "quite unable" and the whole sentence may be reduced to: "We are still quite unable to define hypnotism." In this last form we have all the pith and meaning, but it is shorn of its elaborate ornateness.

Yet another example: "The fact of advocating preventives assumes the possibility of lapses." Here "the fact of advocating" is a round-about way of saying "advocacy"; this phrase illustrates not only the circumlocution, but the ornamental use of "fact" for "act." "Assumes the possibility of" means only "presumes," the whole sentence meaning: "Advocacy of preventives presumes lapses."

Other instances of pleonasm culled from current journals are: "A vital need for the preservation of life." "One of the reasons is because." "Mutation changes." "Limitation of field of response to effort."

Among phrases which are substituted for single words, two favourites are "clear up" for "fade," "abate," "lessen," "subside" and "become more marked" for "increase," "grow," "exacerbate."

If it be asked what is the reason for this elaboration of expression, the answer would probably be that it not only provides a sonorous sententiousness, but also affords time for the reader to appreciate the full meaning of the author. Medical writers deal with matters worthy to be described at length.

What Lord Brougham called the "snip-snap of Tom Macaulay" may suffice for history, but is unworthy of medicine. Medical writers insist on saying their full, even at the risk of bombasting out the line with unnecessary adjectives. A curt precision is thought rude. "He lay prone" may suffice for Defoe; but medical journalese demands: "He was discovered recumbent in the prone position." Shakespeare tells us that "brevity is the soul of wit"; but what has medical journalese to do with wit?

Medical journalese dispenses with literary graces, with the rounded periods of classical authors and with Ciceronian antithesis. Can it be that medical writers have modelled themselves on the advice of Buckle, who speaks of "that sickly and artificial interest which the classical prejudices of early education still contrive to create" and teaches that "it is a grave offence . . . to depart from the vernacular speech"?

Certainly they eschew rhetorical flourishes; not for them are pathos, apostrophy, aposiopesis, strophe and antistrophe; they affect tautology, pleonasm, bathos, anacoluthon. Simple diction and tenderness are taboo. The medical journalist conceals his sentiment and sympathy beneath a robust downrightness, sometimes almost suggesting rough callousness. The expression "little sufferer" may pass in the pages of Dr. Eustace Smith, but finds no place in medical journals. One shudders to contemplate the awful possibilities consequent on reference to a woman in labour otherwise than as "a confinement case."

But while the medical journalist shuns such classical references and such old-time phrases as *fons et origo mali, causa causans, morbus cordis, vera causa, vis medicatrix naturæ,* he does not disdain the ornament of allusion and no article is complete without reference to the latest fashionable fad: œdema of the brain, auto-inoculation, acidosis, anoci-association, adrenalin insufficiency, disorder of the endocrine glands, psycho-analysis, autogenous vaccine, accessory food factors, deficiency disease; all in turn play their part. The more flamboyant the name, the greater the fascination.

One at least must be dragged in at any cost; we read in *The British Medical Journal*: "Tuberculosis is a deficiency disease."

A sprightly liveliness is achieved, not by pithy phrase and curt precision, but by the use of familiar slang and of hospital argot, *e.g.*, "buck-up" for "brace," "pussy" for "purulent," "toxic" for "intoxicated," "acute abdo." for "acute abdominal lesion," "temp." for "pyrexia."

Artificial terms, *i.e.*, shams masquerading as real words, serve the same purpose. "Stunt" is used for "duty" or "operation"; "Britisher" for "Briton" and even for "Englishman"; "tabloid" for "tablet"; "'Lysol'" for "soapy cresol," "'Heroin'" for "diamorphine."

It may be that such jargon emulates the style of Thomas Carlyle.

A broad-minded tolerance suggests derogatory references to our own profession, such as "medicine man" for "sorcerer" and "witch-doctor" for "wizard."

Another ornament of medical journalese is fictitious certainty, devised, of course, not to deceive but to entertain. It is common knowledge that in racing parlance "a cert." means a probable winner and "a moral cert." a possible winner; "an absolute moral cert." has prospects so poor that only the most foolish back him. Our authors imitate this style, writing "always" in place of "usually" or "sometimes" and "never" in place of "rarely." A distinguished teacher, in *The British Medical Journal* (1922, Volume I., page 338), speaks of "a given time, usually about ten days." The substitution of "absolutely" for "relatively" is almost invariable.

Allied to this is a pedantic accuracy, *e.g.*, an item of diet is described as "one egg (hen's)."

Should this become wearisome, the reader may be relieved by the introduction of an intriguing vagueness, thus of a meningitis suspect we are told "the throat swabbing was negative"; later we learn with surprise that it was the diphtheria bacillus and not the meningococcus that was sought. Antitoxin is used without any qualification to indicate whether against plague, diphtheria or tetanus.

Such a sentence as: "I sent the patient to hospital for t.b. examination, but the result was negative," leaves it in doubt whether the patient was submitted to a test with tuberculin, a search for tubercle bacilli in the sputum or merely for physical signs of tuberculosis; "t.b." is an habitual contraction for tubercle bacillus, for tuberculosis and for tuberculin.

"Gram-positive" may mean either retaining the stain in Gram's method or reacting to Gram's decolorizing solution; this form is therefore usually preferred to the non-ambiguous "Gram-fast."

"Negative" is a favourite word in many associations, although usually contrasted with positive, medical journalists do not use it as did the late Dr. Hughlings Jackson to indicate a decrease, but merely to denote failure.

Here may be mentioned the complexity of incongruities as in "one grain to the gramme."

Those not satisfied with these degrees of ornamentation sometimes go still further, writing "lay" for "lie," "who" for "whom" and *vice versa*. Despite the classical "dashed him to earth, there let him lay," and Shakespeare's "Lay on, MacDuff, and damned be him that first cries 'Hold, enough!'" the ordinary man would be wise to content himself with the less advanced methods previously described. Such solecisms as "bad" for "ill," "raise" for "rise" and "prone" for "supine," though frequently employed, are extravagant.

Medical journalese is subservient to traditional language, even at the expense of fact. For example, a reviewer in *The British Medical Journal* chides an author for saying that a tertian fever recurs every second day and commends the obviously false statement that it recurs every third day.

Medical journalese imposes not only by pleonasm, circumlocution, assurance, complexity, fashionable allusion, but also by the use of dignified expansion, such as "enfeebled" for "feeble," "enlarged" for "large," "detect" for "find," "comatose condition" for "coma," "encapsulated" for "encapsuled"; one does not write "nine of my twenty patients," but "45% of my cases"; and, again, by impressive substitutes, which parade a foreign culture or an esoteric science, such as "to hæmorrhage" for "to bleed," "cavitation" for "excavation," *"Poltergeist"* for "hobgoblin," "team-work" for "collaboration," "bovines" for "oxen," "tension" for "pressure," "micro-organism" for "germ," "orientation" for "adjustment," "conservancy" for "sanitation."

A picturesque tinge is lent to ethical discussions by describing an ineligible as a "scabby blackleg."

Hybridism also appeals, *e.g.*, "acidosis" for "acid intoxication," "hypersensitive" for "supersensitive," "hypertension" for "hypertonus," "bactericide" for "germicide," "laryngo-fissure" for "thyreotomy."

Sensational charges against professional colleagues attract attention, especially when copied into the lay press. Thus a writer bewailing the rareness of early diagnosis in cancer of the larynx, states that "the fault lies largely with the general practitioner, who does not take sufficient notice of early symptoms." A famous orthopædist attributes to the neglect of colleagues failures due to the imperfections of our art and the poverty of patients. In THE MEDICAL JOURNAL OF AUSTRALIA (1922, Volume I., page 374) a writer on puerperal sepsis reproaches the "medical men," who are "responsible for a large proportion of these unfortunate events." A distinguished surgeon goes still further, saying it is criminal to administer castor oil to children with colic.

In such attacks it is wise to aim only at the general practitioner; specialists sometimes retaliate.

Medical journalese observes a meticulous modesty. Even when it discusses nasty things, it avoids their nasty names. Thus for "suckle" it substitutes "nurse"; for "sewage," "sewerage"; for "privy," "lavatory"; for "horse-dung," "manure"; for "bitch," "lady-dog"; for "lechery," "immorality." Some writers go further; thus an American article on sanitation bears the mysterious and intriguing title: "Disposal of Toilets from Railway Trains." Close perusal discloses that "toilets" means fæcal and urinary dejecta. It may be noted in passing that a Sydney hotel now uses "toilet" for "latrine." Who would have the temerity to oppose this flowing tide of prudish pudicity?

The same caution which prohibits the use of indecent words, demands a seemly piety in metaphor. Religious subjects are to be treated with due reverence. I know only two instances in which blasphemy is permitted. The first is conferring on any organized attempt to stay an epidemic the sacred name of "crusade"; the second is a parody of the parable of the sower, in which the noxious germs of a foul disease are compared to the living words of Jesus Christ.

The following are offered as examples of translation into medical journalese:

"He sought solitude" may be lengthened to "He tended to seek solitude" or still further to "He tended to be given to seeking solitude." It is in this last form that it appears in the pages of *The British Medical Journal* (1921, Volume II., page 1,023).

In the same way "They are increased by fatigue and lessened by rest" may be expanded into "They are specially aggravated by fatigue and tend to clear up again after a period of rest" (*The British Medical Journal*, 1921, Volume II., page 1,019).

Again: "The symptoms abate and the patient convalesces" may be truthfully said when immunity is established in typhoid fever; but it is short and unimpressive; it lacks that fascinating verbosity which in medical journalese is not merely a means but an end in itself. By expanding short words into long phrases and by adding unnecessary, nay, even untrue, but picturesque statements, the sentence may be transmuted into: "The symptoms take a turn for the better, the patient becomes less toxic and in an astonishingly short space of time is con-

valescent and well on his way to recovery." Except for the obviously untrue additions, it now means no more than did the brief original; but what a transformation! A professorial contributor to *The British Medical Journal* now finds it worthy to appear.

"Cyclic vomiting in children may be replaced by migraine in adult life" is expanded by a famous writer in *The Clinical Journal* to: "When children who suffer from cyclic vomiting get past the age of puberty, it is apt to disappear and its place to be taken by typical migraine."

The following definition of thought may afford us an extreme and final example: "Thought is the psychic expression of the neurotic metabolism constituted by the successive alternations of the processes of integration and differentiation involved in the autogenous readjustment under volitional stimulation of the chemical conditions controlling the molecular inter-relations of the histological elements of the cerebral cortex."

Do not be discouraged if early attempts fail; most contributors to medical journals succeed. Practice will perfect the art of translating plain English into medical journalese. It is not asserted that the reverse process is always possible.

The essential rules are: Be parsimonious in vocabulary and redundant in phrase! Use conventional misnomers, sham words, hybrids, hyperbole and bizarre slang! Respect the susceptibilities of Mrs. Grundy! Alternate rash assurance with tantalizing vagueness! Above all, avoid classical models!

It might have been a medical journalist of whom Macaulay wrote that he "does not attempt to polish and brighten his composition with the Ciceronian gloss and brilliancy."

SOME POINTS IN SURGICAL TECHNIQUE.[1]

By W. J. Stewart McKay, M.B., M.Ch., B.Sc.,
Senior Honorary Surgeon, Lewisham Hospital.

After a lifetime spent in doing surgical work, one must know a few things that will be useful to others. This is my excuse for this paper. Many of you will know all my points; but the younger men will not: it is to them I speak.

Time being of such great importance in all major operations, I have always been an advocate for rapidity. Hurry generally means defective technique; the aim of the surgeon should be to adopt a technique which will save time and so bring him to the termination as rapidly as possible. I am afraid that young surgeons often try rapidity, thinking to impress, but their rapidity leads to the neglect of details and the result is imperfection.

If I were asked what single piece of technique I have taken longest to appreciate, I would say the fixing of gauze to the edge of the wound. If I were asked what I consider to be the most essential step in any long operation, I would say the fixing of gauze to the edge of the wound. I will leave this subject for a moment, but will return to it.

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on June 30, 1922.

Incisions in Skin.

Let us first turn our attention to the incision in the skin. In performing an abdominal section where the incision is made between the umbilicus and the pubes in the mid-line, after cutting through the skin and fat, I always make a point of dissecting away the fat from the anterior surface of the rectus sheath for two centimetres (three-quarters of an inch) on either side of the mid-line. The young surgeon is so eager to reach his quarry that he has no time for this simple detail, yet to me it is one of the important steps in an abdominal section, for the simple reason that when the sewing-up stage is reached it is essential that the edges of the incision in the anterior layers of the aponeurosis over the rectus should be brought together with meticulous care and this cannot be done if the fat has not been dissected back so that the operator can clearly see where he has to insert and bring out his needle. The proper union of this layer determines whether an incisional hernia will form or not. So it comes to happen that if I have to insert a drainage tube in dealing with a septic appendix the wisest course, I find, is to put the patient on the table—say, two weeks after the first operation—to open the wound and to make sure that the layers of the aponeurosis of the rectus are in apposition. Were this done more frequently the numerous incisional hernias found in the appendical region would be less frequently met with. I have not found such hernias easy to mend and always now employ silver wire when dealing with these ruptures.

Returning now to our median abdominal incision, after cutting through the rectus sheath I always insert my fingers into the rectus and tear it apart, at the same time taking the precaution to push it off the posterior layer of the rectus sheath and the peritoneum. This little point of tearing through the muscle was shown to me by Veit in Berlin thirty years ago and it has saved me a lot of time in entering the abdominal cavity.

In opening the peritoneal cavity, when dealing with fibroids of the uterus, remember to open as close to the umbilical end of the incision as possible. Only once have I opened the bladder and that was in a woman with a large fibroid over twenty years ago.

If I am operating for appendicitis I always adopt the straight cut parallel to the outer border of the rectus. I say always, but if I am operating on a society young woman, I make the cut boomerang-shape, almost at a right angle to the outer border of the rectus. There can be no doubt that the perpendicular incision leaves a scar that stretches and becomes a conspicuous pigmented eye-sore to a refined woman. The boomerang-shaped scar remains the same after years.

Appendicitis.

It would almost seem absurd to try and teach anyone anything about operations on the appendix; yet after thirty years I feel I still go on learning from new cases. Thus, I removed from a patient sent to me by Dr. Lidwill an appendix that had been given up by one of the best surgeons in America. He began from below and worked up and missed the

appendix. I began from above and worked down and found the quarry. I often say that no two cases of appendicitis—except those that are not appendicitis—are ever alike and although this is an exaggeration, it contains a grain of truth.

First as regards the size of the incision. If you have to deal with a fat woman or man, let the incision be 12.5 centimetres (five inches) long. If you have to deal with a child or a thin subject, try this plan. Make an incision two centimetres (three-quarters of an inch) long, parallel to the outer border of the rectus. There will be no subcutaneous fat and so the incision can be made at once in the two layers of the anterior sheath of the rectus. Then the muscle is pulled in towards the middle line by a retractor and we see the posterior sheath of the rectus or the *fascia transversalis*. Here you must look out for the nerves on the anterior face of the layer, which are easily identified, for, if touched, a contraction of the rectus will at once occur. Try to cut through the posterior sheath of the rectus, not through the *fascia transversalis*, at the same time avoid tearing the inferior epigastric veins with the retractor that is pulling aside the rectus muscle.

Now the size of the incision made through the posterior sheath need only be large enough to admit the left index finger. When the appendix is found and pulled up, some caecum always comes through the small wound and invariably it is found that the incision has grown to twice its original length. This is not due to tearing; it is due to relaxation. The operation that I have just described does not take more than ten minutes to complete and when the incision in the skin is healed, the scar is little more than 1.25 centimetres (half an inch) long.

We have all been at times annoyed at the skin edge turning in. This can always be prevented by nipping up the opposite sides of the incision with a pair of Spencer Wells forceps placed in position every two centimetres along the whole length of the wound. One would think that this would bruise the skin; but this is not so and the mark passes off after a few days.

Fixation of Gauze to Skin Edges.

Now that I have said something about incisions, let me come to the one great essential in all operations that take more than fifteen minutes to perform. That essential is the fixation of gauze towels to the skin edge. As I have said already, the idea did not come readily to my mind. I fancy that the first time I saw it suggested was in a little book written by Dr. Vallack, of North Sydney, and published in 1905. In it he dealt with the principles and practice of asepsis. On page 34 he says, in speaking of the importance of preparing the skin before the operation that: "As it is not possible by any means at our disposal to wholly banish them (bacteria), especially in certain situations, it is advisable to keep the skin of the patient as far as is practicable from coming into contact with instruments, ligatures and sutures, especially such of the latter as are left in the wound. The best practical method of achieving this is by stitching sterile towels to the patient's skin around the wound area or by the author's method of stitching napkins to the edge of the wound itself." It took years for this wise advice to sink into my thinking apparatus and now I consider it the most important step in every big operation. Take, for instance, the huge incisional hernias that come to one from all points of the compass. In many of these cases the operation takes three hours. The time, the manipulation and the method we will not bother about; the one thing that counts is that as soon as the incision is made through the skin and fat, gauze towels are affixed to the skin edge. If this is done, one usually finds that, no matter how big the incision or how long the time, the wound heals with the formation of little or no serum. Such a result is impossible if the hand comes into contact continually with the skin during the course of the prolonged operation.

Here is a beautiful example of what this simple precaution means to the surgeon. I think that you will all acknowledge that this broken humerus is about as bad a break as you could encounter in this bone. Notice that the skiagram shows the head of the humerus broken at the surgical neck; the next 7.5 centimetres (three inches) of the shaft are broken in two places and the lower part of the shaft has ten centimetres (four inches) of the anterior face of the bone ripped away from it. This patient was seen by me three weeks after the accident and I advised her to be operated on. After a very careful preparation of the skin for two days with biniodide of mercury, I drew over the whole arm a thick white stocking and fixed the end of it up about the shoulder with sutures. I then cut through the stocking into the skin and at once sewed the cut edge of the stocking to the edges of the wound. The operation took about one hour and a half. Here is the result. Not a drop of serum formed and there was splendid union in five weeks, as you can see by this photograph of the plate. Other similar operations and this one have taught me that Lane was wrong when he told us that the secret of success in such operations is not to introduce the fingers into the wound. That is of little consequence. The secret of success in these operations and in other prolonged operations is to cover the skin and not to touch the skin during the operation.

Hydatid Cysts.

I have applied this gauze technique to operations on hydatid cysts of the liver. I think that I may say that, with the exception of some of the Melbourne surgeons, the usual operation for hydatid cysts of the liver in Australia is to open the cyst, remove the endocyst and daughter cysts, fix the ectocyst to the abdominal incision and insert a drainage tube. Now the mistake made is the insertion of the drainage tube. During the last twelve years I have discarded the drainage tube for hydatid cysts, unless the cyst is suppurating when operated on The proper technique, therefore, in my opinion, is the following: The skin is prepared for two days before the operation; an incision is made through the skin and at once gauze is sewn to the edges of the wound. The cyst is fixed to the deeper edges of the wound and emptied of fluid, endocyst and daughter cysts. I must admit that getting all the daughter cysts out is not always easy, but at Lewisham we

have a table that has a lateral movement and it is possible to turn the patient on her side and wash the cysts out very effectively. To dry out any fluid left behind, the cyst is filled with a long strip of gauze and when this is withdrawn the cavity of the ectocyst is free of fluid and cysts. The wound in the abdominal wall is then closed without drainage.

In Melbourne, after a cyst has been opened and its contents removed, the cavity of the ectocyst is filled with formalin solution. Then the opening in the cyst wall is closed and the whole dropped back. I must say I cannot agree with this, because, if anything goes wrong, the abdominal incision has to be opened throughout its whole length and the sutured spot in the ectocyst found—and this may not be easy to do. Kilvington, who advocates this plan in his recent address, says that one of his patients died on the fifth day and drainage had to be employed in two others out of the seventeen patients so treated. I am glad to say that I have lost no patients by my own method during the last twelve years. I exhibit the temperature chart of the last patient treated by this method.

Goître Operations.

The more I use the simple procedure of gauze fixation, the more I like it. I have for some time applied it in my goître operations and think that the immediate results have been better, that is, there has been less drainage. I have for the last seven years maintained that the proper way to treat a patient with exophthalmic goître is to remove both sides of the gland, leaving only a very small piece of the thyreoid on one side, although this may have to be done in two or more operations.

This same procedure I followed in a case of severe shell-shock recently with splendid results.

While one can remove an adenoma from the thyreoid in five minutes, the removal of both sides of the gland in exophthalmic goître takes time. There is a great deal of manipulation required and it is essential for a good result to fix gauze all round the edges of the incision. I have changed the shape of the incision recently. I now make a deep horse-shoe shaped one in the skin, dissect up the flap, pick up with a needle the veins and tie these off at once. After an incision in the mid-line is made, the muscles are undermined with the finger and long Doyen flexible forceps are inserted and the muscles incised. The forceps enables one to lever the cut muscles up and down and the gauze can be affixed to the muscles and in this way the skin is hidden from view.

I wish to show you a temperature and pulse chart of a case of exophthalmic goître complicated by an immense abdominal tumour, so as to illustrate an important surgical principle. I hold that if a subject with Graves's disease has a second lesion that requires operative treatment, the goître should be done first for the simple fact that if you operate on a patient with Graves's disease and do not touch the goître, yet the patient will have post-operative hyperthyreoidism, just the same as if the goître had been first attacked. This chart shows a high degree of hyperthyreoidism after removing the goître and the other lobe of the gland; but the second operation, though done about two weeks after the first, shows not nearly so much disturbance of the pulse and the temperature, in spite of the fact that the second operation took longer to perform than the first. The satisfactory part about the chart is that it shows that when the patient left the hospital, both the temperature and the pulse-rate had been normal for some time and the reason is that I left only a small piece of her sound thyreoid gland behind.

Hysterectomy.

From thyreoids let us go to fibroids. I have seen the uterus removed for fibroids in many different ways, but I have never seen any method which enables the operator to remove a uterus as rapidly and as easily as the one which I have often employed for years. I say "often"; don't let me be misunderstood! One comes on a fibroid every now and then and it is not removed in five or seven minutes and sometimes not in fifty; but these are very exceptional cases. The ordinary fibroid can be removed in five or six minutes from the time the operation starts, the whole operation being finished in twenty minutes. I have seldom finished one of these operations in less time than this. This is the method that I have used for years: The incision is made, gauze is attached to the skin edges and the round ligament on the left side is picked up about 2.5 centimetres (one inch) from the uterus. This is caught by two artery forceps and a cut made between them. Then a finger is pushed through from the back of the broad ligament and made to emerge at the spot on the round ligament where the cut was made. On each side of the hole thus formed a strong pair of forceps are placed which closes on the Fallopian tube. A cut is made through the tube down to where the hole formed by the finger was made. The same is done on the right side. Then the bladder is stripped off the uterus, the right uterine artery is caught close to the cervix, the cervix is cut across by scissors and the left uterine artery is picked up before the uterus is quite cut away. The cervix is sewn with catgut, the vessels tied with silk, the peritoneal flap sewn over the stump and the abdominal incision closed in layers. In performing this operation, the patient being in the Trendelenburg position, the surgeon should never neglect to affix the gauze on the left side of the incision, because that is the side where his right hand continually comes into contact with the patient's skin. If gauze be used, the wound has little or no serum; if the gauze be not affixed, the wound will always have serum. Many surgeons think that any infection that takes place is from the stump of the cervix; but I am convinced that it is from the skin.

Prolapsus of the Stomach.

It appears to me that surgeons pay far too little attention to the surgical treatment of prolapsus of the stomach. There are two types of women who have gastroptosis. The one type is of women who have had children, while the other is of the unmarried. These types differ very much. The woman who has had children, has had her abdominal muscles over-stretched and when we examine her abdomen, we find it in a thousand wrinkles. She looks to

have more skin than is necessary. Not only is the skin relaxed, but the fibro-muscular portion of the abdominal wall is relaxed and between the recti and the middle line one can push one's fist.

The other type is quite different. It may be called the virginal, as opposed to the maternal type. Here we have to deal with thin, miserable girls or women; pale, nervous wrecks with poor chest frames contracted about the epigastrium. When we come to examine the abdomen of the women we find that the epigastric region is often concave and we can notice a distinct epigastric pulsation, while in contrast to this the rest of the abdomen below the umbilicus appears almost plump and full.

I must confess that I failed for years to appreciate these cases until some ten years ago a school teacher came to me and gave me a history of twenty years of suffering. I proposed to explore her stomach region and then I found that her stomach was away down near her urinary bladder, so I pulled it up and fixed it to the ligament of her liver and then removed her appendix. That woman gained twenty-two kilograms (three stone seven pounds) in three months. Since that time I have done this simple operation many times and often with splendid results.

The operation is a very simple one. The incision is made to the right of the middle line, half-way between the umbilicus and sternum. The incision is 3.75 centimetres (one and a half inches) long. As soon as the stomach is found, it is pulled up and an examination made to see if there are any signs of old or new ulcers. A spot 2.5 centimetres (one inch) from the pyloric sphincter is chosen on the lesser curvature of the stomach and a silk suture is inserted in the stomach wall and the ends carried up and passed through the ligament of the liver. The stomach is then drawn up and fixed securely to the ligament. This procedure not only prevents the stomach from falling down, but it appears to me that it gives a *point d'appui* which it had not before. The food, instead of remaining behind in the stomach and fermenting, now leaves the stomach much more quickly, as can be ascertained by a bismuth meal.

Of course, as I make a point of removing the appendix in these cases, I must attribute some of the good result to that part of the operation. The most striking result that I have obtained after this operation was in a school teacher from Lithgow, who gained twenty-nine kilograms (sixty-four pounds) during the first five months after the operation.

Gastro-Enterostomy.

As I am on the subject of stomachs, I should like to draw attention to a point in the technique of gastro-enterostomy. When sewing the incision in the stomach to the incision in the bowel, I always begin in the centre and sew towards one end and round that end; then I come back to the spot that I started from and, having left the long end of the thread there, I sew towards the other end and round the end. The usual plan is to begin near one angle and to sew round the angle first or else to sew right along to the other angle; but I find it much more convenient to begin in the centre as described. I always use Pagenstecher's thread for this sewing.

Urethral Caruncle.

This insignificant growth is a cause of great suffering to thousands of women. Any general practitioner considers that he is quite capable of curing it by injecting a little cocaine and snipping it off. But it invariably returns when so treated. I have tried various methods and find that the best way to cure it is to give the patient a general anæsthetic and to attack the growth and the tissue immediately surrounding the urethra with a pointed actual cautery. The tissues must be thoroughly burnt to a depth of one centimetre (one-third of inch), if not the blood vessels will return before twelve months. I asked Dr. Harry Harris to burn one out with the high frequency cautery that he uses for villous growths in the bladder and the result was very satisfactory. One would think that after such extensive burning the parts would never regain their normal appearance. If the patient is placed in a hot bath twice a day for three weeks the whole heals so beautifully that one could never tell that an operation had been performed.

Many cases are treated as urethral caruncles which are only instances of partial prolapsus of the urethra. In these cases it is only necessary to pare away the redundant mucous membrane and to close the raw surface with chromic gut sutures.

Cystocele.

Heaven knows how many operations have been described for the cure of cystocele. They nearly all have one fault, the vaginal mucous membrane is dissected from the bladder, but the bladder is not dissected away from the surrounding tissues; then after a certain amount of vaginal mucous membrane is cut away, the edges are brought together over the bulging part of the bladder.

In my opinion there is only one way to operate on a cystocele with a hope of success and that is to dissect away the mucous membrane from the convex bladder protrusion, then to strip the bladder off the anterior face of the uterus. When this has been done, it is an easy matter to push the bladder up and to sew the vaginal mucous membrane to the anterior face of the uterus in such a way that the bladder cannot again come down: this sewing is done with chromic gut.

Piles.

If I were asked what is the secret of success of a successful technique in a pile operation, I would say without hesitation the thorough dilatation of the sphincter. I know that there are some operators who tell you never to dilute the sphincter in a pile operation. Well, all I can say is that, if ever any of these gentlemen had a pile operation performed on themselves, they would alter their opinion at once. If you dilate the sphincter very slowly after four or five minutes you can easily insert your hand into the rectum and after such a dilatation there is little or no pain after the operation. But if there has been no dilatation of the sphincter there is usually agonizing pain.

Whilst writing this paper a man came to me who had very bad piles and had never had a motion for years without pain and hæmorrhage. I put him on the table and dilated his sphincter and when I had finished two masses each the size of a fist lay about each side of the anus. Such masses look very formidable, but in reality they are easy to deal with. One takes a pair of curved scissors with blunt points and one cuts through the skin about two centimetres (three-quarters of an inch) away from the edge of the mucous membrane. Having done this, one begins to dissect back the tissues with a blunt dissector until the edge of the sphincter is reached. Then the mucous membrane is dissected away from the muscle with more care and it will be found that the whole original mass is only attached by a thin layer of mucous membrane that can be clamped and the mass cut away. Then the actual cautery is run over the raw surface on the distal side of the forceps, while three silk ligatures are inserted in the proximal side and tied. The mass in the opposite side of the anus is treated in the same way. Nothing more is done than to pick up any stray bleeding vessels. On no account is the mucous membrane to be sewn to the skin edge. I inspected the patient mentioned above on the sixteenth day and found that everything had healed except at two small spots not much bigger than a sixpence. After the operation there is no pain. The patient told me that for twenty years he suffered agony after each motion and he said that he had had no pain after the motion that had passed forty-eight hours after the operation nor was there really any pain about the anus. I always keep the raw surface well dusted with "aristol," a good astringent antiseptic powder. If, however, the rectal mucous membrane is sewn to the skin at the operation the patient always has a bad time.

Alexander's Operation on the Round Ligaments.

I did not propose to say anything about Alexander's operation, but while writing this paper a communication was published in THE MEDICAL JOURNAL OF AUSTRALIA. Now, neither the man who contributed the paper in Adelaide nor the men who discussed the paper seemed to appreciate one step in the operation which I think is the most important. Professor Goldsporn and myself years ago pointed out that if the surgeon found any difficulty in getting the uterus up whilst performing the operation, the proper thing to do is to snip through the tissues at the canal of Nuck and insert the index finger into the peritoneal cavity. When this is done any adhesions that may be keeping the uterus from coming into position can be broken down and often the uterus can be pulled into much better position than is possible by merely pulling the ligaments in the usual way. I never see this step mentioned in books or papers and so it has probably escaped notice; but for those who believe in the Alexander operation for selected cases—and I am one of them—I would urge them to add this step when performing the operation and I am sure they will be surprised how much this step will add to the success of an operation which does not seem to be appreciated as much as it should be.

DIATHERMY IN THE TREATMENT OF MALIGNANT GROWTHS.

By W. KENT HUGHES, M.B. (LONDON),
Honorary Surgeon, Ear, Throat and Nose Department, Melbourne Hospital; Honorary Surgeon, Children's Hospital, Carlton, Victoria.

DURING the last six years, I have had a very extensive experience in the use of diathermy, especially in the region of the face and mouth. Unfortunately, for statistical purposes the vast majority of my cases have been hopeless from the point of view of cures, although occasionally even in these desperate conditions some of the patients have remained well up to the time of writing. In all sorts and conditions of malignant growths, I am more and more impressed with its special advantages, both as a curative and palliative measure; especially in rodent ulcer, as far as I know, I have not had a single failure, if the patient has not had previous radiation treatment.

Rodent Ulcer.

Rodent ulcer is popularly considered a mild malignant growth, hardly worthy of being considered a cancer. In these days when both practitioners and patients, anxious to avoid the supposed horrors of an operation, employ various forms of treatment, such as carbonic acid snow and radiation, it appears to me that we see many more horrible cases of this disease than when I was a student. Perhaps it may be that, owing to the increase in population and in the lengthening of the term of life, there are many more of such cases than forty years ago.

I cannot help thinking that the disuse of energetic and early surgery accounts to some extent for the very large number of these dreadful cases.

I have no personal experience of the value of either carbonic acid snow or radiation and, as I only see their failures, it would be unfair for me to draw any conclusions detrimental to either form of treatment.

As regards carbonic acid snow, I cannot help feeling that, generally speaking, its employment is futile. Rodent ulcer is not, as a rule, the purely superficial ulcer it so often appears to be. By the time the patient presents himself for treatment, it has existed for many months, perhaps years.

Without sufficient pathological data to prove my statement, I would hazard the suggestion that it has penetrated far more deeply than it has spread superficially. Carbonic acid snow can only deal with the superficial portion, which scars over after treatment, and all the time the growth runs riot beneath.

The same objection of superficial healing without destruction of the underlying growth can also be applied to weak doses of radiation, a method that apparently is so common in both private and public clinics.

Again and again I come across cases which remain apparently healed for many months with a nice, smooth scar, only to burst out with extraordinary virulence and wide-spread throughout the deeper tissues.

In one case it remained quiescent thus for two

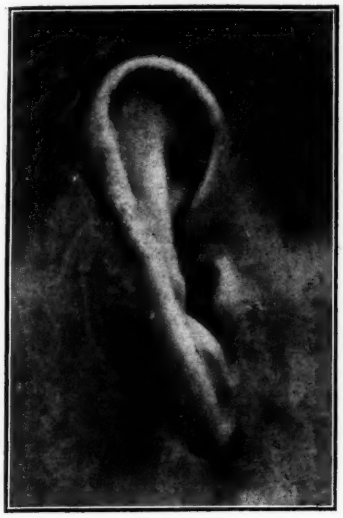

FIGURE I..

K. (sent by Mr. Alan Newton), aged 48 years. Extensive ulceration involving the face from below the hair line to below the lobe of the ear and about two centimetres in width at the upper part. Duration, fourteen years. No previous treatment except ointments. Healed after one application of diathermy.

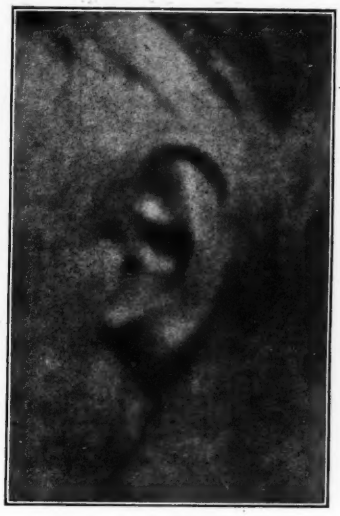

FIGURE II..

C., aged 56 years (sent by Dr. Alen Hailes). The duration of the rodent tumour was sixteen years. No treatment by radiation had been previously applied. One application of diathermy on December 16, 1921, sufficed to bring about complete healing.

FIGURE III..

B. (Melbourne Hospital), aged 46 years. Duration of rodent ulcer, twelve years. Extended over the side of the fact as low as the tragus, forward to below the outer canthus. The upper eyelid, contents of orbit and three-quarters of the lower eyelid were involved. Diathermy was applied in December, 1921. The whole area was skin grafted (see text) towards the end of May. A small piece of necrosed bone has recently been cast off.

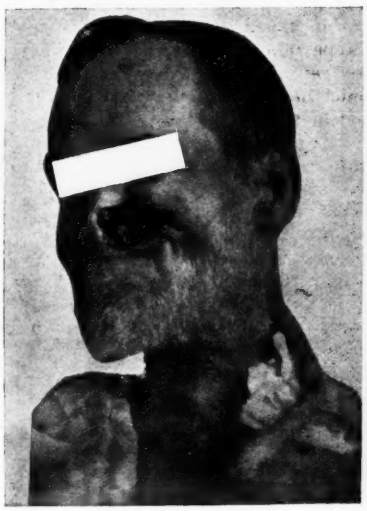

FIGURE IV..

M., aged 59 years, was sent to me by Dr. Crowley. Duration of rodent, ten years. For three months (July 16) there has been no re-appearance of rodent. This patient had been previously treated by radiation.

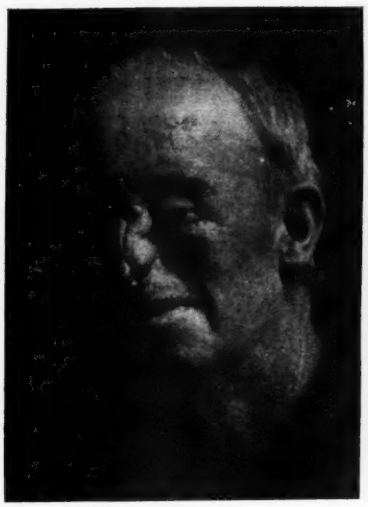

FIGURE V..

G., aged 60 years, was sent to me by Dr. Crowley. The duration of the rodent tumour was twelve years. The patient had been previously treated by radiation.

FIGURE VIII..

N., aged 36 years (sent by Dr. Crowley). Duration of rodent, sixteen years; size, ten by eight centimetres; situation, at the back of the neck. Previous treatment by radiation. After two treatments by diathermy the rodent was completely healed. A small recurrence took place at the back of the ear last April.

FIGURES VI. AND VII..

M., aged 59 years. Duration of rodent, seven years. He began treatment by radiation six and a half years previously. The rodent was of extent as seen in Figure VII. when he came under me two years ago. The left eye had been removed by Sir James Barrett and the left antrum had been opened up by Dr. Andrew and part of the ethmoid removed. There was extensive involvement of the tissues beneath the skin over the malar bone of the remaining portions of the ethmoid and antrum. Figure VII. shows a graft from the forehead over the left upper portion of the nose and a smaller graft across the cheek. An epithelial graft has been placed under what remains of the left upper lid. For some months there has been no re-appearance of the rodent ulcer anywhere.

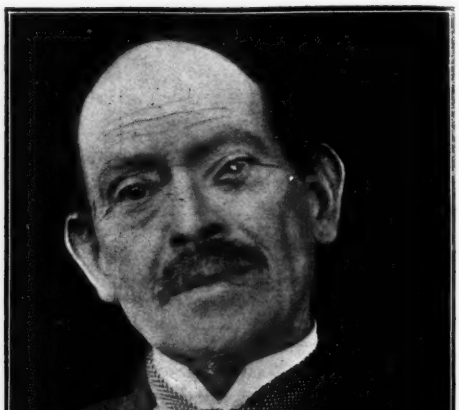

FIGURE IX..

T., aged 54 years, was sent by Dr. A. W. F. Noyes. When first seen the patient had a deep rodent ulcer mesial to and just below the inner canthus. It admitted the tip of the little finger. The rodent ulcer had existed for seven years. After one application of diathermy it has disappeared and for two years has presented the condition of everted lower lid seen in the picture.

FIGURE X..

C., aged 58 years, was sent by Dr. Crowley. Extensive rodent involving the area over the parotid, the lower half of the ear and the mastoid process. Duration, fifteen years. Treatment by radiation over many years. Diathermy was applied twice at intervals of three months. The facial nerve was destroyed in dealing with the growth in the mastoid process and the internal carotid was damaged. Ten days later the internal carotid was tied for secondary hæmorrhage. There has been no re-appearance for twelve months. The contracting scar has almost restored the disfigurement produced by facial parlaysis.

FIGURE XI..

Mrs. M., aged 65 years, was sent to me by Dr. Forsyth. The duration of the rodent tumour was twenty-one years and the condition had been previously treated by radiation. The picture shows the condition after extensive removal by surgery and diathermy. When I had finished the removal there was a gap of 7.5 centimetres in width and only a small piece of the right side of the nose adjacent to the inner canthus remained. The case promises well as up to the present. A forehead graft was implanted on the left side, as the resulting gap was not only terrifying, but was judged to be dangerous.

FIGURE XII..

H., aged 52 years. The duration of the rodent tumour was fifteen years. The growth extended from just below the hair line and involved nearly the whole of the left frontal bone area and the right frontal sinus. The upper part was quickly cured, but the ethmoidal area has still some doubtful places. The patient had been previously treated by radiation.

years. I was treating a small rodent ulcer in the same patient on the other side of the face to the original site, when it suddenly broke down into an enormous ulcer eight centimetres by six centimetres and involved the facial nerve and deep portions of the mastoid process. He has remained well for eight months.

When large doses of radiation are used, so many cures from different observers are reported that there can be no possible doubt of the truth of their statements. All I can say is that I often see patients who are supposed to have had large doses of radiation and are in a deplorable condition.

Where I certainly would pick a quarrel with users of radiations is in their persisting for years with treatment when there is no hope of a cure or even of holding the disease in check. I have had several cases where the disease over a wide area has been apparently held in check for two years and more and suddenly a flare up has occurred and the disease has spread rapidly, like a fire through a dry field of wheat.

It seems to me that, just as small superficial ulcers are often stirred to greater activity by small doses of radiation or carbonic acid snow, so in deep, extensive cases, where large doses are used, parts of the ulcer receive only weak radiation and they are thus stirred into activity in a similar fashion.

Surely if, after six months of treatment by radiation, there is no sign of complete and absolute cure, this form of treatment should be abandoned and some other means, such as surgery or diathermy, should be attempted. In my opinion, there is no excuse for continuing one form of treatment for twenty years and more, while the ulcerations extend relentlessly further and further. Small ulcers on the cheek have thus been allowed to extend and extend until the eye has been destroyed, the nose completely eroded away and half of one side of the face invaded by the malignant ulcer. I know quite well that it is often owing to the patient's insistence that other measures are not tried sooner, but if the medical men took strong steps to persuade them that cure by radiation was hopeless and that persistence was dangerous, treatment by radiations would not be subjected to so much condemnation.

The awful cases of rodent ulcer that are so frequent, are a sad commentary on our present-day medical practice. We are careful to cram our students with the intricate data of minute anatomy, with the mysteries of higher physiology and with the details of obscure neurological cases, but we leave them sublimely ignorant of everyday, common ailments and I have never come across a recent graduate who considered senile degeneration of the skin as worthy of a moment's consideration.

I have every respect for knowledge in every part of our medical training, but are we not attempting the impossible in our medical curricula? Cannot we take care to instruct our students more thoroughly in the practical side, even if we have to jettison much that is considered valuable by specialists here and there? I consider that a body of general practitioners would draw up a better curriculum for everyday use than university professors, who have never treated a patient. Whatever else a student is taught in this way of skin diseases, he should be more thoroughly instructed to take care and beware of small ulcers and pimples of recent origin or patches of senile degeneration of the skin, especially in those areas where rodent ulcer commonly appears.

Every small ulcer, growth or senile degeneration, however small, appearing in persons about or over fifty, should be immediately dealt with, especially in those of fair hair or florid complexion. My advice is to excise such ulcer and growth widely and deeply, especially the latter, or to treat the scaly patches with carbolic and salicylic acids ointment (one gramme to twenty-two grammes, *i.e.*, twenty grains to the ounce).

If there be a recurrence or if the ulcer be three millimetres or more in diameter, I would advise diathermy. Its value lies in the depth to which it causes coagulation necrosis and in the wide area of superficial destruction. In my experience, it is quite easy to cure any rodent ulcer that has not had previous treatment by radiations. Three patients, who were sent to me as inoperable, are shown in Figures I., II. and III.. As they have only been under observation for seven months, it is premature to class them as cured; but I have watched similar cases for as many years. In all of the patients the ulcer had existed for over twelve years and was roughly the size of half a crown in area in I. and II. and was the huge extent shown in Figure III.. When radiation has been used unsuccessfully, the ulcers are very much more resistant and seem to recur, especially superficially, at the skin edge near the healed ulcer. I wonder if the radiation sometimes acts upon the skin in a manner that aids the formation of eroding ulceration. We are told that rodent ulcer is commoner over here than in England, especially in the fair-skinned people, and exposure to sun is said to be the reason. If that is so, my surmise that radiation may also act injuriously is not far-fetched, but full of reason. It is quite a common experience after curing a rodent ulcer in patients who have been subjected for years (up to twenty-five years) to radiation to be disappointed by the constantly recurring fresh outbreaks. This is not the usual experience in those patients who have not been subjected to radiation.

I wonder if Dr. Cleland's statement (The Medical Journal of Australia, 1920, page 408): "Interesting appearances are often presented by the rodent ulcer type, which seem to suggest that the neoplastic activities are not confined to a single spot, but are concurrent or nearly concurrent in a group of closely associated glands," refer to cases that have been treated by radiation. The production of epithelioma by X-rays is so well established that it is not wildly speculative to suggest that rodent ulcer may be also produced by radiation. It seems to be acknowledged that some irritation is necessary to start acanthomata and basal cell epitheliomata into activity. May not radiation supply that stimulus in glands that are ready to thus break forth?

Cases involving periosteum, cartilage or bone are generally acknowledged by radiologists as beyond hope, yet some persist in subjecting patients to this

form of treatment, no doubt because they have no belief in any other treatment.

With the exception of the ethmoid, I have not found such cases to be unmanageable. It is true that it is too early to speak of many cures, because, owing to the war, my work has only been continuous for the last four years; but I have quite sufficient number of hopeful results to inspire me with the belief that such patients can be cured.

To take, for example, the case of B., *ætatis* 46 (Figure III.). The rodent had existed for fifteen years and involved the area shown in the photograph. Nearly the whole of the external surface of the right frontal bone was affected and the skin, as shown in the illustration. The right eye and contents of the orbit were extensively diseased.

On December 16, 1921, I applied diathermy to the whole area, eviscerated the orbit and excised all the eyelid except a small portion of the lower eyelid near the inner canthus. On May 30, 1922, as there seemed to be no recurrence of the rodent ulcer, I decided to graft the whole area. In the first place, I had to chisel off the superficially necrosed outer plate of the frontal bone, as it refused to slough off. By so doing I exposed the whole of the right frontal sinus.

Forty-two separate grafts of the Reverdin type, but very much larger, were spread over the surface and a large, whole skin graft was tucked into the frontal sinus, which extended half way across the orbit and well over to the left side past the middle line. I should mention that previously I carefully removed all the mucus lining of the sinus. As will be seen in the illustration, every graft took well. In the case of the large, whole skin graft in the frontal sinus there was some superficial necrosis, but all of the deeper portions lived. At one place just near the highest portion, a small breakdown has occurred (July 8), due to a small piece of necrosing bone that I did not remove when I chiselled the area. This patient had not had any previous treatment by radiation.

Another case which promises well, as far as the bone portion is concerned, is that of M. (Figure IV.), sent to me by Dr. Crowley. For several months past there has not been any appearance of rodent on the nasal bones, septum or maxilla, although, as shown by the illustration, there was extensive involvement of all. The whole of the alveolar border on the left side had disappeared and the left antrum was well exposed posteriorly when he first came to me. The rodent is still breaking out superficially and has extended to the right *ala nasi*. The lip is not yet free and is almost gone and the left cheek is doubtful. He had several years of treatment by radiation and his is a type of case that I am convinced is best dealt with by a combination of surgery and diathermy. With that end in view I have prepared a large skin tube according to Gillies.

I might mention here that when a very long tube is prepared, the tube should be immediately encased in a foment and kept warm for several days. When the tube becomes too short to reach the area desired, I have found it practicable to bury the free end in a suitable position and, after leaving it thus for the usual three weeks, the original fixed end is then several and used as desired. In one case I have moved the tube caterpillar-wise by three steps. In this method as large a contact as possible should be made between the free end of the tube and the incised skin in which it is desired to bury it. This can be best accomplished by making two slits at right angles to each other in the end of the tube. The skin likewise should be incised by two similar incisions, so that triangular flaps can be raised, to be received into the slits in the tube and *vice versa*.

The condition in Mr. G., *ætatis* 60, also sent to me by Dr. Crowley, is one of extensive bone involvement that seems to promise a complete cure (see Figure VI.). As is seen, I have already grafted the left side of the nose with a frontal flap; the area of bone involved included the septum, the left nasal bone, the nasal process of the left maxilla, the ethmoid cells in the region of the inner canthus and the superficial surface of the antrum.

He had a year's treatment by radiation before Dr. Crowley saw him and he has been eighteen months under me and has had four applications of diathermy.

Although diathermy, as a rule, when applied to soft tissues is painless, when applied to bone it is not so. The duration and intensity of the pain varies very considerably, but on the average only lasts a few days and very seldom is more than aggravating in character. This is in striking contrast to the severe pain that lasts almost indefinitely in bone cases treated by radiation.

As regards the difficult problem of when the condition is cured, I am still uncertain when it is safe to indulge in plastic surgery. A surgeon must be guided by his experience. At the very earliest and in the most auspicious cases I should wait six months and in other cases again I have delayed for two years, fearing that I might bury a deep eroding ulcer and discover my mistake all too late.

I can only produce one case that I am hopeful about, where the ethmoid has been extensively involved. It was that of the patient M., fifty-nine years of age (see Figure VII.). The rodent began six years ago, below the left inner canthus. He came to me after four and a half years' treatment by radiation. The orbit had been exenterated and the antrum well laid open from above and externally, to provide access for radiation. The ulcer, involving the naso-frontal duct area, gave me considerable trouble, but there has been no recurrence now for over a year. The necrosing area just below was again treated with diathermy three weeks ago, because it looked doubtful. The specimen was unfortunately lost. That area and also one in the region of the posterior end of the inferior turbinate are the only doubtful points left over what once was a huge area of ulcerations, from beyond the outer canthus and below it to the floor of the antrum to the upper and left side of the nose.

One of the most striking cases is seen in Figure VIII.. This patient was sent to me by Dr. Crowley. It is also noteworthy from the fact that the rodent

ulcer commenced at the early age of twenty-one. When the patient came to me he had a large ulcer, ten by seven and a half centimetres (four by three inches), just below the hair line on the right side of his neck posteriorly. After two applications of diathermy, the rodent was apparently cured, as evidenced by examining sections at the margin of the raw surface. He had had fifteen years of treatment by radiation. After excising the base of the raw surface, I endeavoured to cover it with skin from a flap in the neighbourhood of the right shoulder. A large part of this flap died (the effects of the previous radiation upon the blood vessels). So I was obliged to dissect up the flap from below and bring another flap from his chest to cover the raw surface near the shoulder. He had a small recurrence at the back of the lobe of the right ear which had to be treated with diathermy.

Rodent ulcer of the lower portion of the nose seems to be more active and virulent than elsewhere and I think that perhaps wide and extensive surgery would be the best form of treatment. Two of the cases under my care have been returned as both rodent and epithelioma respectively on separate occasions. Both of these began as a keratosis of the skin over the dorsum of the low part of the nose and were treated as such for a long period before being sent to me.

I have only one case that has healed up straight away after prolonged treatment by radiation. The patient was Mr. T., who was sent to me by Dr. Noyes with a deep-seated rodent ulcer at the inner canthus (see Figure VIII.). He has remained free for a year and a half.

Some English observers doubt the multiplicity of rodent ulcer. I have one patient with five separate ulcers, three of which were examined by the pathologist, and I have several patients with multiple ulcers under me now.

Rodent ulcer in its early stages is, in my opinion, a condition that should be easily cured. The growth, if seen early enough, should be deeply and widely excised and, if recurrence takes place or if the case in the first place is of long standing or at all extensive, then diathermy gives the best results.

Epithelioma.

Most of the cases that have come under my care have been so advanced that only palliative treatment could be anticipated. In some instances, however, most striking results have been obtained, especially in old people (over sixty-five) with epithelioma of the mucous membrane of the cheek without glandular involvement. These seem to yield readily to diathermy.

Also, I have had several successful results with epitheliomata of the auricle, though, perhaps, surgery would give a shorter convalescence in most cases.

Figure X. depicts a good instance of involvement of the upper part of the auricle and the adjacent tissues as far upwards as the limit of the temporal fascia. After two applications of diathermy the case promises well, despite the large area involved. This case was deemed inoperable, owing to the patient's enfeebled condition and the large area involved.

Out of many cases of epitheliomata of the tongue and floor of the mouth, only a small percentage have been successful, but these have been so striking that I am encouraged to persevere.

Epithelioma of the palate involving both hard and soft palate generally does well, if not too advanced.

The case of one patient (P.), sent by Dr. Chas. Sutton, was of great interest. He had extensive involvement of the hard and soft palate, which included also the left anterior faucial pillar and the left mandible adjacent to it. He remained free for twelve months. He returned with involvement of the dorsum of the tongue and left side near the anterior faucial pillar. To-day he is still free from any apparent growths.

I had another extensive case C., aged sixty-two years. On February 2, 1921, I applied diathermy. He had an epithelioma involving the right soft and hard palate, the right anterior pillar and tonsil and the mandible as far forward as the second molar tooth. The tongue was involved on the right side from the middle to the posterior end of the dorsum. His glands were removed by Mr. Zwar. He remained free until April, 1922, when he had a small recurrence on the site of the tonsil.

I have seen three patients with epithelioma of the lip with Mr. Zwar. Two of them have done well; the third had very extensive involvement of the glands and was for eighteen months under the care of an unqualified man. His condition was hopeless from the beginning.

Epithelioma of the lower portion of the nose seems to be more elusive and I am not satisfied that diathermy is as effective as wide surgical excision.

All the cases of epithelioma of the tongue, floor of mouth, palate and jaws that have come my way, have been inoperable. In the majority of cases my treatment has been palliative, that is to say, the ulcer has been cleaned up and the patients have had a fairly comfortable existence during the remainder of their life. The growth in one patient whom I showed at a meeting of the Victorian Branch of the British Medical Association, broke down again after fourteen months' complete freedom from any sign of ulceration. I have several cases which up to the present promise well, but it is difficult to keep in touch with hospital patients for two years after the ulcer has healed. However, I am quite satisfied that great relief can always be given and that occasional cures result. It is astonishing how long these patients can go on without seeking relief and often efficient treatment is delayed far beyond the safety point, before the family physician recognizes the gravity of the condition. It is to some extent excusable in rodent ulcer, which remains apparently superficial and harmless for such a long period, but there is no excuse for delaying radical treatment in epitheliomata of any type or position.

In a case of epithelioma of the mouth and palate, with involvement of glands, I think the best course to follow is to treat first with diathermy and then to excise the glands after the third day. If the

glands are removed first, sepsis not infrequently sets in.

Epithelioma of the œsophagus is one of the most dismal of diseases. It exists for such a long period before giving rise to any signs or symptoms that, in my experience, it is hopeless when it reaches the surgeon. Often the first indication is when it grows forward and involves the arytenoid region. In some cases diathermy has enabled the patient to swallow comfortably for weeks and in one case for several months.

Epithelioma of the larynx is not a condition that I have treated with diathermy, nor can I conceive of a condition where it would be useful.

The case of Mrs. U. is interesting from two points of view; the one is that a patient with epithelioma involving the mucous membrane and bone of the lower jaw has remained well for two years and the other is the early age of the patient (twenty-one years).

My youngest patient with malignant disease is a boy, *ætatis* twelve (M.), sent by Dr. Embleton, who had previously excised the growth from the floor of the nose on three separate occasions. A granular mass about the size of a split pea occupied the floor and adjacent portion of the septum in the right naris, just beyond the vestibule. The first treatment was not radical enough, so a second diathermy was applied. He has remained free now for one and a half years.

Endothelioma.

I have not given any statistics, because it is too early to be definite and also it is so difficult to keep trace of hospital patients. Some I thought cured have recurred and some that I had given up I learn by chance are quite well.

The advantages of diathermy are:

1. That it cleans up the distressing and filthy conditions attendant upon epithelioma of the mouth.
2. That it does not impair the vitality of the normal tissues adjacent to the cancer area, so that plastic operations can be freely performed.
3. That it produces little or no shock.
4. That its after-effects are few and transient.

In the case of soft tissues, it abolishes pain by destroying nerve endings. This has been well exemplified in painful X-ray or radium burns.

In the case of bone involvement, pain of an aggravating, though not intense character, is not infrequently experienced.

The dangers are not many. Secondary hæmorrhage is not infrequent when working in the neighbourhood of large vessels. When I use diathermy in the floor of the mouth or other dangerous areas I generally tie the external or internal or common carotid as indicated.

After applying diathermy it is advisable to curette the coagulated area as thoroughly as possible.

When you begin to use diathermy it is necessary to proceed very cautiously, as the area involved by coagulation necrosis is much greater than is anticipated.

Great care must be taken when applying diathermy near the sclera. In my experience, both it and the cornea are very liable to ulcerate, even though the terminal is some distance away. When working near the orbit, I always insert a protecting pad of rubber over the sclera and cornea.

In two cases of epithelioma of the œsophagus diathermy seemed to affect the cardio-inhibitory nerve; one case ended fatally.

Cases other than the above have included papilloma of the bladder. Two were malignant and the patients did not do well. Several palpably innocent papillomata have done very well. Personally I think all cases that are malignant or even suggest malignancy, should be treated through a suprapubic incision.

One large angio-fibroma of the face in an infant is interesting. This was a rapidly growing angioma involving the lower lid and outer canthus of the right eye and spreading over the cheek. It was freely treated with diathermy and great destruction of the tissues was of necessity involved. There has never been any sign of reappearance of the angioma and plastic operations are in progress to restore the outlines of the face. Considering the hideous progress of the disease, in spite of all measures hitherto, it is very gratifying to record this success.

Very large nævi, even if not cured completely, are always so reduced in size that excision is made possible.

One patient with fibro-sarcoma of the palate whom I treated with diathermy in 1916, still remains well.

Quite apart from its uses as a destroyer of malignant growths, there is quite a large field for diathermy in lumbago, sciatica and gonorrhœal arthritis. It not infrequently acts like a charm and I have had several patients with fibrositis of many years' standing who have remained quite free for years after its application.

In the case of joints and the neck I have found the use of a large terminal made of chain metal preferable to the ordinary flat lead terminal.

Reports of Cases.

INVERSION OF THE UTERUS.[1]

BY RALPH WORRALL, M.D., M.CH., Q.U.I.,
Honorary Surgeon to the Coast Hospital; Honorary Consulting Gynæcologist to the Sydney Hospital.

INVERSION of the puerperal uterus is one of the rarest accidents in obstetric practice, but, for that very reason it may not be out of place to review our knowledge and rehearse our treatment of a condition the mortality of which is put down at 50%. It is most common in primiparæ. Favouring conditions are relaxation of the uterine walls, particularly at the placental site, and a patulous cervix. It may possibly occur spontaneously, but usually results from traction on the cord or excessive and misapplied compression of the fundus. It may be complete or incomplete, complete implying that the inversion has passed beyond the external *os uteri*, when it may go on, as in one of the cases I now report, to include the entire cervix, so that the whole organ is turned inside out.

The symptoms are very severe shock and collapse and, if the placenta should become detached, hæmorrhage.

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on June 30, 1922.

Diagnosis.

It is most often mistaken for a fibroid polyp, from which it is distinguished by the absence of the body of the uterus from its usual situation and the fact that in inversion neither finger nor instrument can be passed beyond the neck of the tumour.

Prophylaxis.

Prophylaxis consists in avoiding traction on the cord or attempts to hurry the third stage of labour by forcible expression of the placenta. Gentle friction of the uterus will usually maintain the state of contraction which makes inversion impossible.

Treatment.

Inasmuch as separation of the placenta will certainly cause more or less hæmorrhage, I think it best to reinvert the uterus before detaching it. Restoration should be attempted at once; delay means greater difficulty. If the condition can be remedied only at the cost of much traumatism, it may be safer to defer treatment until involution has been completed; that is, until the chronic stage has been reached.

In the chronic stage one may resort to Aveling's cup, which has fallen into desuetude owing to the pain, delay and danger attending its use, vaginal hysterectomy, Spinelli's vaginal method of dividing the constricting ring anteriorly after dissecting up the bladder, or posterior hysterotomy through the abdominal wall, as advocated by Professor Haultain, of Edinburgh.

If the patient is a elderly woman who does not desire more children, vaginal hysterectomy should, I think, be the procedure of choice because of the smaller risk from sepsis.

When the cervix is included in the inversion Spinelli's vaginal method is contraindicated, owing to the great traumatism to the uterus in the traction required to bring the bladder insertion into the field.

Posterior hysterotomy through the abdominal wall, as described and carried out successfully in Case III., is applicable in all cases.

Reports of Three Cases.

My experience of inversion of the uterus is limited to three cases:

Case I.—Inversion of Uterus in Primipara: Death from Shock and Hæmorrhage.

This patient was seen in consultation with a colleague when I was a parish doctor in Liverpool, England. A midwife had attended the patient, a young primipara, and my colleague had been called in on account of hæmorrhage and collapse. Recognizing the serious condition, he had sent for another medical officer. Just as I had made out the bleeding tumour presenting at the vulva to be an inverted uterus, the patient died. I remember being struck at the time with the apparent callousness of the mother and other relatives of the patient in the presence of such a tragedy. Life was of no great value and death a frequent visitor in the slums of Liverpool.

Case II.—Inversion of Uterus: Death from Sepsis.

This case was that of a patient seen by me as medical officer in the Order of Oddfellows, Sydney. A midwife had attended and I was sent for as serious symptoms had occurred. I found the inverted uterus at the vulva and placenta detached; on attempting restoration without an anæsthetic, which I had not with me, I received a kick on the chin from the patient, which decided me to send her into the Sydney Hospital, where under ether anæsthesia I succeeded on the same day in reinverting the uterus. The patient died of septicæmia.

Case III.—Inversion of the Uterus of Eight Weeks' Standing Successfully Treated by Abdominal Section and Posterior Hysterotomy.

Mrs. G.B., eighteen years, primipara, a strong, healthy girl, had a severe hæmorrhage at the seventh month of pregnancy which passed off with rest and morphine. Delivery at full term was accomplished by the application of forceps (low operation) on April 26, 1921. The placenta was gently expressed in fifteen minutes; with it came a large tumour to which the membranes were attached. There was considerable hæmorrhage and shock. A convulsive attack occurred in two hours and this was followed by four others in quick succession. Loss of consciousness was not quite complete. The patient had not previously experienced similar attacks. The urine, which had been normal throughout pregnancy, now contained a small quantity of albumin.

I saw her in consultation with Dr. Jensen, of Kogarah, twenty-eight hours after delivery, when her condition was as follows: She was very pale; her pulse rate was 156; her temperature was 37.8° C. (100° F.). The *fundus uteri* was absent from its usual position and a cup-shaped depression was felt behind the pubes. On vaginal examination it was found that a very tender, vascular tumour filled the vagina and presented at the vulva.

Under ether anæsthesia a complete inversion of the uterus was made out. Cautious attempts to reduce the inversion by grasping and compressing the uterus, by steady upward pressure against the fundus in the axis of the pelvis and finally by endeavouring to reduce first the portion of the uterine wall, which must have last inverted, all failed.

I decided that it would be imprudent to persevere further, lest the unavoidable traumatism should so favour sepsis as to bring about the death of the patient, even if the reinversion of the uterus were successfully accomplished. Therefore, at this, stage, it would be wiser to wait until involution had been completed.

The patient slowly recovered and on the thirteenth day the temperature and pulse rate became normal. She was moved to the Coast Hospital on June 1, 1921. A week after she was seized with colicky pain in the abdomen, shock, vomiting and great respiratory distress. Dr. Stafford considered the attack of the nature of anaphylaxis and successfully treated it with atropine and morphine. Steady, but not great, hæmorrhage continued from the inverted uterus.

On June 25, just two months after delivery, she was again anæsthetized with ether. I found the inversion complete; even the lips of the *os uteri* had disappeared. I came to the conclusion that as grave injury to the uterus would certainly result from the great traction necessary to expose the bladder insertion, to dissect it off and divide the constricting ring anteriorly according to the Spinelli method, it would be advisable to adopt this procedure.

The patient was therefore put into the Trendelenburg position and abdominal section done. No adhesions were found; the round ligaments and Fallopian tubes were drawn into a transverse slit representing the uterus. Dr. Stafford pushed up the *fundus uteri* with two fingers in the vagina, while I incised the constriction backwards, but had to extend it upward almost to the *fundus* before the slowly re-inverting organ became once more completely abdominal. The cut uterine wall was hard, inelastic, white and friable; therefore, very difficult to suture. This was eventually accomplished in two layers of interrupted chromic and plain catgut. A gauze drain was passed from Douglas's pouch into the vagina.

The patient stood the operation well and made a good recovery, although for the first few days a quick pulse and considerable distension gave rise to some anxiety.

I examined her on July 16 and found the condition quite normal. Dr. Jensen informed me last week that the patient had left the district, but was very well when he had last seen her.

Reviews.

MEDICAL BIO-PHYSICS.

THE third edition of Professor Sir Edward Schafer's "Experimental Physiology"[1] contains detailed directions for performing the majority of the fundamental and classi-

[1] "Experimental Physiology," by Sir Edward Sharpey-Schafer, F.R.S., Professor of Physiology in Edinburgh; Third Edition; 1921. London: Longmans, Green & Company; Demy 8vo., pp. 131, with 90 illustrations. Price: 6s. net.

cal experiments in physiology, except those of a chemical nature. Of thirty-two chapters the first is devoted to experiments on ciliary and amœboid movement, thirteen contain descriptions of electrical apparatus used and of experiments on nerve and muscle and eight deal with the heart and circulation. Then follow chapters on secretion, respiration, the nervous system and the special senses. The majority of the experiments are designed to be carried out on the frog or rabbit. Brief explanations are given in the text of the significance of each experiment. This is an excellent book for use in experimental physiology classes.

Analytical Department.

PARKE, DAVIS & COMPANY.

IN THE MEDICAL JOURNAL OF AUSTRALIA of January 28 and April 22, 1922, an account was published of the general methods of manufacture, of the hygienic safeguards and of the particular pharmaceutical processes employed by Parke, Davis & Company at their chemical factory at Rosebery, New South Wales. In the same issues reports on certain proprietary preparations were appended. In the following reports no reference is made to the general arrangements or expedients adopted to insure standard conditions. The reader is referred to the previous articles for these details.

"Molevac."

"Molevac" is a high viscosity liquid petroleum emulsified with malt extract. It contains twenty-five cubic centimetres of "Cascara Evacuant" (see THE MEDICAL JOURNAL OF AUSTRALIA, January 28, 1922, page 98) in each litre (that is, twelve minims in each fluid ounce). It is prepared in a mixing machine. The liquid *petrolatum* and malt extract are mixed continuously until a permanent emulsion is obtained. The "Cascara Evacuant" and certain flavouring agents are then added and are well churned into the emulsion.

"Molevac" is a thick, viscid, brown preparation, having an appearance similar to that of a thick malt extract. The emulsion is extremely fine and is apparently quite permanent.

Samples were obtained at the factory and others were purchased in the open market. They were indistinguishable as far as appearance and taste are concerned. The presence of *petrolatum*, maltose, cascara and salicylic acid was determined. The preparation was found to have a strong diastatic action on boiled starch. The liquid *petrolatum* was estimated quantitatively by the Rose-Gottlieb method. The preparation was found to contain between 35.99% and 36.75% of liquid *petrolatum*.

An examination of the ingredients was carried out. The malt extract used was of high quality. The liquid *petrolatum* was clear and had a specific gravity of 0.8915. Its viscosity as compared with water at 25° C. was fifteen—an exceptionally high value.

"Molevac" is an excellent example of emulsified liquid *petrolatum* compounded with care. It has a pleasant taste and is liked by children. The malt extract and cascara act as adjuvants to the petroleum. A clinical test has borne out the claims of the manufacturers as to its laxative properties. It can be recommended as a pleasant and efficient means of administering liquid *petrolatum*, especially to children.

"Granulogen."

"Granulogen" is a preparation of paraffin wax containing cresylic acid, chloretone and some colouring matter. It has a low melting point.

A paraffin of good quality is mixed with a measured quantity of bees-wax and cotton-seed oil to lower the melting point and to make it more ductile and pliable. Chloretone and a small quantity of crude cresylic acid are added. The ingredients are melted together and a little scarlet red is added to give the preparation a pale pink colour.

No differences were detected between the appearance and other properties of samples collected at the factory and those purchased outside.

"Granulogen" melts at 45° C.. Thin films of the wax are pliable in water at 20° C., that is, below this temperature the film breaks sharply when folded, while it does not break when warmed above this temperature. The films are ductile in water at 27° C.; below this temperature the films break sharply and evenly when pulled. A film applied to the skin remains attached after an hour, but can be removed readily and cleanly.

The ingredients were examined and found to be of good quality. The paraffin melted at 52° C., the bees-wax at 63°. The chloretone, cresylic acid and scarlet red were also of high quality. In the closed tins the chloretone volatilizes to some extent and forms long, needle-like crystals on the surface of the wax. It thus appears that at the temperature of the body the chloretone reaches a wound surface in appreciable quantities. It is doubtful whether the cresylic acid leaves the wax, for on shaking a quantity of the preparation with water for a considerable time, no phenol or cresol derivative could be detected in the water.

As a preparation for the treatment of burns by the paraffin method "Granulogen" can be highly recommended, since it possesses properties which render it superior to paraffin alone.

"Chlor-Anodyne."

"Chlor-Anodyne" resembles in composition the *tinctura chloroformi et morphinæ composita* of the British Pharmacopœia. The amounts of the several ingredients are not quite the same. It contains less morphine hydrochloride and less hydrocyanic acid, but more chloroform. The formula is as follows:

Alcohol (67%)	to 1 litre
Morphine hydrochloride	6.6 grammes
Fluid extract of cannabis (United States Pharmacopœia)	95 c.cm.
Chloroform	95 c.cm.
Dilute hydrocyanic acid	18.7 c.cm.
Oil of peppermint	3.1 c.cm.
Tincture of capsicum (United States Pharmacopœia)	1.5 c.cm.

The ingredients used in its preparation are of the highest quality. Some difference in the shade of the fluid was noted between the purchased and the collected samples. This was probably due to the use of different batches of the extract of *cannabis indica*. One sample was of a bright, grass-green colour, while another was of a dark, olive-green colour. In other respects the samples resembled each other closely. The presence of morphine, chloroform, menthol, hydrocyanic acid and glycerine was confirmed. The following analysis was obtained:

Total-non volatile ingredients	18.521% to 19.131%
Specific gravity	0.9571 to 0.9662
Ash	0.014% to 0.015%
Alcohol	70%

"Chlor-anodyne" is an elegant pharmaceutical preparation. It is carefully compounded and should be of value when a mixture of this composition is required.

"Thermofuge."

"Thermofuge" is a preparation containing kaolin, boric acid, menthol, thymol, oil of eucalyptus and ammonium iodide. It resembles *cataplasma kaolini* of the Australian Pharmaceutical Formulary. The kaolin is obtained in bags from America in a finely powdered state. It is heated at 70° C. for a sufficiently long period to dry and is then mixed in a mixing machine with glycerine. Boric acid, menthol, thymol, oil of eucalyptus, ammonium iodide and methyl salicylate are then added and the whole is churned for some time in a closed mixing machine to insure homogeneity. The thick, putty-like mass is then fed into tins.

The ingredients used are of good quality. The kaolin is very finely divided; it is a creamy white powder, quite free from grit. Samples were obtained at the factory and purchased elsewhere. They were practically identical in consistency and odour, but there was some difference in colour. The colour varied from creamy-white to light slate. This difference is probably due to differences in the colour of different batches of kaolin. After the mass has been in the tin for a considerable length of time, a distinct separation of glycerine takes place. The presence of the several ingredients said to be present was confirmed.

"Thermofuge" can be recommended as a carefully prepared variety of kaolin poultice.

The Medical Journal of Australia

SATURDAY, AUGUST 5, 1922.

The Maternity Allowance Act.

The Federal Committee of the British Medical Association in Australia considered at its meeting held on July 19 and 20, 1922, a proposal by the South Australian Branch to the effect that the money now being doled out to the mothers in the Commonwealth should be utilized to greater advantage. Arguments have been adduced in these columns and elsewhere to show that the measure providing the five pound baby bonus has little real significance as a national movement and that much of the money has found its way into the drinking saloon and the pockets of the bookmaker. It has further been shown that the attitude of the originators of the movement was not genuine and that more attention was paid to the interests of the politicians than to those of the necessitous mothers. The Federal Treasurer is being pressed to economize, so that the drain on the taxpayers' pockets may be reduced. The maternity bonus has served its purpose and the Treasurer is prepared to reduce the amount spent each year as much as the people will stand without resentment. There has been much frank talk about this vote-catching expedient. The time has arrived for the medical profession to tender sound advice to the Government in regard to the most advantageous manner of improving the public health with the money at present wasted. It may be admitted that monetary assistance to women in necessitous circumstances to meet the expenses associated with child-birth is sound hygiene. Care should be taken that this money is spent solely for the benefit of the mother and her child. It would probably be advisable to substitute for cash payment a system of dockets or orders for goods or services. The direct contribution should be given only in exceptional circumstances and not at all to persons in regular earnings.

The Federal Committee has indicated the manner in which three-quarters of a million pounds sterling could be spent with a good prospect of reducing the maternal morbidity and mortality and the infantile mortality. At the present time there are many morbid conditions affecting the woman during pregnancy which are preventible. The prevention at all events of the dangerous manifestations of certain pathological processes before, during and after labour can be effected by skilled and careful ante-natal control. In order that the nation may benefit to the full extent by the application of these preventive measures, institutional supervision must be organized and provided. It will probably be a difficult problem to cater for the rural mothers. But since the future prosperity of Australia depends on the development of her rural industries, ways and means must be found to place within the reach of every expectant mother in country as well as in urban districts the benefits of ante-natal care applied by skilled practitioners. This entails, as the Federal Committee has indicated, better training of students. But it also entails the willing cooperation of the medical profession with the health authorities. The services need not be honorary, but as they would be rendered as part of a large scheme of preventive medicine and would consequently be national rather than individual, the health authority should be responsible for their payment. There would be no need to disturb the existing arrangement between private patients with sufficient means to employ a medical practitioner to perform these services and the family doctor. The rest of the population would look to the organization responsible for the attempt to reduce maternal and infantile mortality and morbidity to provide these services. In addition to those pathological processes which are regarded to-day as preventible, there are others which are less well understood. More especially is this true of the ante-natal influences affecting the unborn infant. We may assume that in the fourth sub-clause of the resolution of the Federal Committee, printed on page 141 of our issue of last week, there would be included machinery for research into the causes of these obstinate processes. Every penny that may be spent on the task of unravelling the mysteries of infantile asthenia, malnutrition, debility and similar conditions will be

soundly invested. The return will be the saving of healthy Australian citizens. At present these words mean little or nothing. They merely indicate that a very large number of babies from some hitherto unascertained causes are unfitted for the hard battle of life and fail at the very beginning. The fault does not lie to any great extent in inadequate training of students and nurses. It depends on the fact that the pathology of these disasters has not yet been thoroughly explored. If the money now spent on the baby bonus is to be deflected to a more useful purpose, some of it must be ear-marked for an organized investigation into the causes of the high infantile death-rate. Many hygienists have admitted defeat in the past by indicating a certain level of infantile mortality as an irreducible minimum. Such an admission of failure is unjustifiable and must be denied by every trained scientist.

The sociological aspect of the problem had also a very important place in the scheme. It is useless to make provision for the proper care of the parturient woman in well-equipped hospitals, if the removal of the woman from her home means the neglect and consequent endangering of the other children in the home. It is essential that the woman shall have confidence in the temporary curatrix of her home. The psychical element may not be ignored, for it is very real and it leaves a lasting impression if it be defied. While the provision of help for mothers and expectant mothers in necessitous circumstances may not be a strictly medical matter, its importance is recognized by medical practitioners and the Federal Committee is performing its duty in calling the attention of the Government to it. The proposals put forward are fundamental principles. When the Government has accepted these principles and realizes that they are essential to the well being of the mothers and infants of the Commonwealth, the medical profession will be able and willing to indicate the details of a sound scheme.

THE POSITION OF PROFESSOR HAMILTON FAIRLEY.

MEMBERS of the British Medical Association will have noticed in the issue of *The British Medical Journal* of June 3, 1922, an editorial article, entitled "Bombay School of Tropical Medicine: A Broken Undertaking." From this article and from the scanty information available the following facts have been gleaned. In our issue of February 26, 1921, at the request of the Tropical Diseases Committee of the Royal Society we published an advertisement calling for applications for the Tata Professors of Clinical Medicine and Therapy and of Protozoology for the School and Hospital of Tropical Medicine in Bombay. The salaries attaching to these positions were stated to be from 1,300 to 3,000 rupees a month (roughly, from £1,000 to £2,400 *per annum*) according to the previous experience of the successful candidates. It was set out that the appointments were whole-time and were made for five years in the first instance, but that they could be extended by the Government on the recommendation of the Governing Body of the School. Further, intending applicants were informed that there was no pension attaching to these appointments, but that the Professors would be given the benefit of a contributory provident fund fixed by the Government of Bombay. The advertisement appears to have been authorized by the Government of India. Among the applicants was Dr. N. Hamilton Fairley, O.B.E., a brilliant graduate of Melbourne, who was at that time working at the Walter and Eliza Hall Institute of Research in Pathology and Medicine. Dr. Fairley's application was forwarded to the Royal Society in London and in due course he was notified that he had been appointed Tata Professor of Clinical Medicine and Therapy at the School of Tropical Medicine in Bombay. On November 26, 1921, Dr. Fairley's colleagues in Melbourne entertained him at dinner and inflicted on him the ordeal of hearing his praises voiced in unbridled terms. The records of the speeches delivered at the farewell dinner can be found in the pages of this journal. Early in the present year the newly created Professor left Australia with his wife for Bombay, to which far distant city he was transferring all his ambitions, hopes and energies.

It appears that some time ago the Government of Bombay took steps to establish a School and Hospital of Tropical Medicine. It is further stated that Sir Dorab Tata, after whom the chairs of clinical medicine and of protozoology were named, promised to contribute a lac of rupees (about £6,600)

a year toward the maintenance of the school. We are unaware how far the construction of the school had advanced by the beginning of April of this year, when Professor Fairley was required to enter upon his duties. Before that date the Government changed its plans, revoked the provision in the budget to meet the necessary expenses and issued orders that the scheme of instituting the school should be abandoned. Sir Dorab Tata consequently withdrew his generous offer. Professor Fairley arrived in Bombay to find that he was a professor in name, but that there was no chair and not even a school to accommodate the chair. The Government of Bombay, indifferent to the *bout de papier* which induced this gifted son of the Commonwealth to resign his appointment in Melbourne and to move his *lares et penates* from his native land to a strange continent, intimated to him that his services would not be required after October 31, 1922. It will be noted that the Government of India had authorized the announcement that a professor was required for an institution within the jurisdiction of the provincial government of Bombay for a period of five years. This announcement must be regarded as a contract on the part of the Government of Bombay to provide a school of tropical medicine in Bombay and to entrust to Professor N. Hamilton Fairley the professorial position for a period of five years at least, renewable for a further period if he gained the support and confidence of the governing body. The Government of Bombay cannot plead inability to carry out its undertaking because of lack of money. The time for such an action elapsed when authority to call for applications for the two chairs was given to the Royal Society. *The British Medical Journal* anticipates that the Royal Society will take action to see that justice is done. The medical profession in Australia will not be satisfied until ample compensation is tendered to Professor Fairley. It is to be hoped that the Royal Society will remember that he has burned his boats in Australia. It may be extremely difficult to begin for a third time. When he returned to Australia with war laurels, he sought to catch up the years lost while he was doing his duty to his country—to the Empire. In these days of competition it is often impossible to make repeated fresh starts. In the next place, Dr. Fairley has a right to an annual income for a period of at least five years of, let us say, £2,000. In the third place, compensation should be given him for the loss of the status of a professor, unless another chair can be found for him. The sequel of this unfortunate event will be watched with rapt attention in this corner of the earth. It the meantime, it should be noted that there is a moral to the story. Australia is acquiring the habit of allowing her brilliant students to drift away to other parts of the world. An eminent authority on tropical medicine recently described the appointment of Professor Fairley to the Bombay chair as a tragedy for Australia.

THE CHEMISTRY OF MUSCULAR CONTRACTION.

THE chemical changes which occur in living muscle, have been studied by the younger recruits to that brilliant group of physiologists gathered together at Cambridge by the late Michael Foster. In his second Herter Lecture,[1] Professor F. Gowland Hopkins attempts to give a connected picture of some of the chemical events in the dynamics of muscular movement. As one of the earlier investigators in this field, he has been familiar with its progress and acquainted with the different hypotheses that have been subjected to the test of experiment and later accepted or rejected. It has often been stated that the chemical changes in living tissues lie beyond the reach of the biochemist and that the instant he applies chemical tests to living tissues, he is dealing with the interactions of dead matter. A review of the researches into the chemistry of muscular contraction will show the way in which such difficulties may be surmounted and the ease with which insight may be gained into the chief chemical reactions of a vital process.

At the beginning of the twentieth century the views of Hermann, extended and amplied by Pflüger, were accepted by the majority of physiologists as the most exact exposition of the chemical events in a muscle. The nutritive substances borne by the blood stream to the muscle were supposed to be united into an unstable inogen, which could undergo upon appropriate excitation an almost instantaneous disruption, liberating the energy of the contraction of the muscle and setting free carbon dioxide and lactic acid. As it was found that a muscle continued to contract for hours in an atmosphere of nitrogen, if suitably stimulated, Hermann inferred that oxygen existed in combination in inogen and that the oxidation, yielding the energy of movement, was due to a rearrangement of the atoms of the unstable compound.

In 1898 W. M. Fletcher showed that a muscle contracting under anaerobic conditions evolved no

[1] *Bulletin of the Johns Hopkins Hospital*, November, 1921.

more carbon dioxide than it did at rest. On the other hand, a muscle contracting in the presence of oxygen showed an increased output of carbon dioxide. This observation was the starting point of the researches of the Cambridge School. In 1902 Fletcher noted that a muscle could be revived by exposure to oxygen when it had lost much of its irritability as a consequence of repeated contraction. In 1907 Fletcher and Hopkins published the results of their classical investigation into the circumstances affecting the accumulation of lactic acid in muscle. They demonstrated that the amount of lactic acid in a muscle increases under anaerobic conditions. By heating muscle the accumulation of lactic acid takes place rapidly until 0.4% is present. When a muscle is tetanized in the absence of oxygen until it will no longer contract, it produces 0.2% of lactic acid, being one-half of that found after heating the muscle or in *rigor mortis*. If a muscle which has accumulated lactic acid under anaerobic conditions is placed in oxygen, the lactic acid disappears.

Further progress in elucidating the chemistry of muscular movement became possible in consequence of the thermodynamic studies of A. V. Hill, an able mathematician and physicist, who used thermo-electric methods to measure the heat of muscular activity. Directly associated with a contraction is a rapid evolution of heat, which occurs both under anaerobic and aerobic conditions and is, moreover, alike in its time relations and other characters, wholly unaffected by the presence or absence of oxygen. In the absence of oxygen this evolution of heat dies away, but in the presence of oxygen there is a further evolution of heat subsequent to the shortening and long outlasting the mechanical change. In 1913 Peters found that one gramme of muscle gives out 0.9 of a calorie when stimulated until it loses its power of contraction and yields a further 0.8 calorie if treated with chloroform. When rigor is induced in fresh muscle by treatment with chloroform, the heat evolved amounts to 1.7 calories per gramme of muscle. These measurements were made under anaerobic conditions. Using better methods in 1919 Meyerhof showed that four hundred small calories are set free during the formation of one gramme of lactic acid. It would appear that the heat of contraction associated with the appearance of one gramme of lactic acid is four hundred calories and that the heat of recovery associated with the disappearance of one gramme of lactic acid is five hundred calories. Since the heat of combustion of one gramme of lactic acid is three thousand seven hundred calories, it is obvious that the whole of the lactic acid is not oxidized in the muscular machine.

The researches of Parnas, Meyerhof and Foster and Moyle show that lactic acid is formed from glycogen under anaerobic conditions, an exact agreement being found between the disappearance of glycogen and the production of lactic acid. Further, only about one-fourth of the lactic acid which disappears on exposure of muscle to oxygen, is oxidized to water and carbon dioxide. The remainder is changed back again to glycogen. Little is known of the intermediary substances produces in the change from glycogen to lactic acid, but there is some evidence that a hexose phosphate is the immediate precursor of lactic acid.

A survey of the whole process shows that oxygen plays its part in supplying energy for the reversal of those interactions which are associated with the initial liberation of energy.

CONNECTIVE TISSUE AND THE LYMPHATIC SYSTEM.

IN addition to being applied to the fluid contained in the lymphatic system, the term lymph is sometimes used to indicate the fluid contained in the inter-cellular spaces in the tissues of the body. This double use of the word is unfortunate, in that it pre-supposes the similarity of these fluids and suggests that they belong to systems that are either in direct communication with one another or are part and parcel of the same system. The view held by von Recklinghausen and enunciated by him in 1862 was in keeping with this aspect. He regarded the lymphatics as taking origin in tissue spaces directly drained by lymph capillaries. He studied the tendons and diaphragm of guinea-pigs and the tissues of frogs by staining with silver salts. He described the network of lymphatic capillaries as being lined by a single but definite layer of flat, polygonal, endothelial cells. These walls, however, were regarded by him as incomplete, for he said that the connective tissue contained fluid-bearing channels that opened directly into the endothelial lined lymph channels through gaps in their walls. His employed similar staining methods and, while he did not altogether agree with von Recklinghausen's conclusions in regard to the walls of the lymph canaliculi, he looked upon the latter as being merely excavations in the connective tissue.

Teichmann was one of the earliest observers to describe the walls of the minute lymphatic vessels as being complete in every particular. Ranvier, after injecting the ear tissues in white rats, found that the lymphatics ended blindly and made the suggestion that the lymphatic system was developed by continuous sprouting of blind tubules from the vein of the embryo. Sabin, as a result of her researches in 1901, showed that Ranvier's suggestion was correct. Klein in 1879 had also stated his belief in this mode of lymphatic origin and MacCallum in 1903 succeeded in demonstrating by means of injection the sprouting and hollowing out of endothelial cells, often with mitotic figures. MacCallum also maintained that the lymphatics were possessed of a complete endothelial lining which showed no pores or open communication with the surrounding tissue. He formed this opinion as a result of observations made on tissues injected with Berlin blue after preliminary staining with silver salts. He found that the Berlin blue would not pass through the darkly stained areas surrounding the endothelial cells, areas which were commonly regarded as being the seat of gaps or stomata communicating directly with the surrounding tissue. The view held by MacCallum has not been generally accepted, for it is often stated in text-books that the self-contained character or other-

wise of the lymphatic system has not been accurately determined.

Professor P. T. Herring and Dr. F. G. Macnaughton recently undertook some research work on the lymphatic system for the Medical Research Council of Great Britain and have published a record of part of their work.[1] They investigated the lymphatic tissues of the guinea-pig, rabbit and cat, using subcutaneous injections of fine carmine granules or Indian ink. The appearances presented in sections of the tissues varied with the length of time after the injections. There was usually an accumulation of pigment at the site of the injection and this was enclosed by connective tissue cells and newly formed fibrous tissue. The cells at the margin of the connective tissue were densely packed and their protoplasm was full of pigment. Professor Herring and Dr. Macnaughton do not state how long it took for the development of this appearance. They do state, however, that if the tissues were examined two months after injection, the pigment was spread over a much larger area and that in the periphery of the affected area the pigment was entirely intracellular. The distribution of pigment was not necessarily along the course of the lymphatics. The lymphatic vessels were remarkably free from pigment; any foreign material present was usually intracellular and rarely free. They hold that it is extremely probable that the particles are taken into the lymphatic vessels by phagocytic cells and conclude that the lymphatics form a closed system of vessels lined by endothelium. They suggest that the term lymph should only be used to designate the fluid contained in the lymphatics.

These observations are valuable and should result in the adoption of unanimous views concerning the histology of the lymphatics.

CANCER OF THE ORAL CAVITY.

IN his admirable article on X-ray therapy, Dr. E. H. Molesworth pointed out that squamous-celled carcinoma of the mucous membrane is highly intractable to X-rays. It is premature to speculate concerning the scope of highly penetrating rays from powerful plants capable of delivering currents of very high voltage. It may be necessary at a later date to judge the therapeutic action of X-rays on these malignant growths arising from mucous membranes. Before a final decision can be reached, it will be essential to ascertain exactly the prognosis when surgical measures are applied. As long as the mechanical removal of the growth and of a wide area of apparently healthy tissue yields a larger proportion of permanent cures, radio-therapy will not replace surgery, although it must be recognized that cure by mutilation is an admission of failure of the medical profession to control the disease process.

Professor Hermann Küttner has published some important information concerning primary carcinoma of the mucous membrane of the mouth. He has collected data concerning 266 cases, including 155 involving the tongue, 49 involving the tonsils, 35 involving the floor of the mouth, fifteen involving the mucous membrane of the cheek and twelve involving the palate.[1] With but few exceptions the growths were squamous-celled epitheliomata. The disease affected males more than four times as frequently as females. Nearly one-half of the male patients were heavy smokers; several had had syphilis and about one-quarter manifested patches of leucoplakia. Alcoholism was relatively uncommon among these patients. Local irritation was found in one third, including sharp edges of carious teeth and badly fitting artificial teeth. Nearly all the patients had neglected mouths. The next point of importance mentioned is the early involvement of the regional lymphatic glands. In at least three-quarters of the patients the lymphatic glands were affected when they were admitted to hospital. The possibility of reaching the whole lymphatic area, as well as the necessity of removing all the glands in the neck in all cases, were regarded as reasons for not classifying tumours with lymphatic metastases as inoperable. Of the total number of patients, 61% were submitted to radical operation. In 21.4% the disease was too far advanced to admit of operative treatment.

Professor Küttner gives a short description of the operations performed by him. Local anæsthesia was used in all cases. Prior to 1908 the mortality from pulmonary complications was 14%; since the substitution of local for general anæsthesia, this mortality has been reduced to 4.4%. The post-operative mortality was 13.9%. The highest mortality was among the patients with cancer of the tonsils (18.4%), while the lowest was among those with cancer of the tongue (8.3%). Septic pneumonia is said to have been the commonest cause of death.

In order to ascertain the prognosis of these forms of cancer after operation, Professor Küttner presents figures dealing with patients who have survived the operation. He finds that late recurrence is rare and therefore fixed three years as an arbitrary period after which cure may reasonably be assumed. At the end of three years 17.2% of the patients who survived the operation for cancer of the tongue, were still alive and free from recurrence. Similarly cure was assumed on the same basis in 11.7% of patients with cancer of the floor of the mouth and 7.7% of patients with cancer of the tonsils. He wisely withdraws the patients with cancer of the mucous membrane of the cheek and cancer of the palate from this calculation on account of the small numbers.

In the last place, he calls attention to the fact that the average length of life of those patients who died, including those who succumbed to intercurrent diseases, was 27.4 months, as compared with between five and six months in the cases of patients with inoperable disease. In every instance the diagnosis was confirmed by histological examination, so that these facts and figures should be accepted as urgent indications for the early and radical surgical treatment of cancer of the mucous membrane of the mouth.

[1] *The Lancet*, June 3, 1922.

[1] *Münchener Medizinische Wochenschrift*, May 26, 1922.

Abstracts from Current Medical Literature.

THERAPEUTICS.

The Influence of Purgatives on Blood Concentration.

FRANK P. UNDERHILL AND LOUIS ERRICO (*Journal of Pharmacology and Experimental Therapeutics*, March, 1922) describe the influence of various purgatives on the blood concentration. The watery character of the stools is the most significant feature of purgation. It becomes a matter of great interest to determine the source of the excreted fluid. There are two possibilities. The fluid may owe its presence to the lack of absorption of the intestinal contents, which is itself due to the presence of the purgative. The second possibility is that the presence of the purgative draws water from the blood. The second theory represents the accepted assumption in regard to the saline purgatives. The authors have attempted to elucidate the problem by observation of changes in the blood concentration when purgatives were administered to rabbits and dogs. They found that the hourly fluctuations in the hæmoglobin content of rabbits not subjected to purgation were insignificant. Rabbits are unsatisfactory animals for purgative experiments, since they develope signs of intoxication due to absorption of the drug and do not develope diarrhœa. Dogs are better subjects. In them the saline purgatives produce a distinct concentration of the hæmoglobin in the blood. The maximum effect is reached during the second hour. The vegetable purgatives (*e.g.*, castor oil and *cascara sagrada*) produce no change in the hæmoglobin content of the blood of dogs, although diarrhœa occurs between the fourth and sixth hours after administration. The authors assume, but do not prove, that these vegetable compounds produce by local irritation a very active peristalsis, which hurries the intestinal contents along the alimentary tract, thus preventing the absorption of the entire contents.

The Excretion and Decomposition of Hexamethylenamine.

P. J. HAZLIK AND FLOYD DE EDS (*Journal of Pharmacology and Experimental Therapeutics*, April, 1922) have attempted to determine the influence of various factors on the excretion and decomposition of hexamethylenamine. The quantitative excretion of hexamethylenamine in man was found to vary between 32% and 82%. The excretion continued for twenty to twenty-three hours after administration of one-gramme doses and for about forty hours after administration of five-gramme doses of the drug. The total excretion bore no relationship to the degree of diuresis, but was augmented considerably by the previous exhibition of bicarbonate. The authors argue that the acidity of the gastric contents is an important factor in the decomposition of the unexcreted portion. Decomposition with liberation of free formaldehyde in the tissues seems unlikely, since only very low concentrations of formaldehyde dialyze and are removable by aeration from neutral and slightly acid mixtures and none from alkaline mixtures of hexamethylenamine and serum and plasma previously incubated for various periods at 38° C.. When large doses of hexamethylenamine were administered into the veins of animals, free formaldehyde could not be discovered in the blood. On these grounds the authors deprecate the alleged benefits of the intravenous administration of the drug to patients suffering from pneumonia and other specific infective diseases.

Action of Salicylates on the Uterus.

J. W. C. GUNN AND MOBBIS GOLDBERG (*Journal of Pharmacology and Experimental Therapeutics*, April, 1922) have investigated the action of salicylates on the uterus. They had in view the determination of the influence of salicylate of sodium in the production of abortion, since abortion sometimes occurs in women suffering from acute rheumatism when under treatment with this drug. The action on the excised uterus and on the uterus *in situ* was studied. Similar results were obtained when either the cat, the rabbit, the guinea-pig or the rat was the subject of experiment. The investigations showed that salicylate of sodium has a definite stimulating action on the uterus, the necessary concentration of the drug being about one in one thousand. The action is not powerful. On the isolated uterus it is only half as strong as that of sodium carbonate and possibly less than one-fortieth as strong as the action of quinine hydrochloride. In the blood of patients under treatment with salicylates for acute rheumatism the percentage of salicylic acid is high, often reaching the concentration of 0.03%. In terms of sodium salicylate this corresponds to a concentration of about one in 2,800. Even such a concentration produced little action on the isolated uterus. The authors conclude that abortion occurring during the course of acute rheumatism is the result of the fever and that salicylates have little abortifacient action unless the uterus is particularly sensitive.

Human Trypanosomiasis.

CLAUDE H. MARSHALL (*Journal of Tropical Medicine and Hygiene*, October 15, 1921) reports a new method of treatment for human trypanosomiasis. Experiments were carried out in cases of infection with *Trypanosoma gambiense*. The method employed is based upon two principles: (*i.*) That when a cure does take place, it is by reason of the formation of some trypanolytic antibody in the blood. (*ii.*) That in the majority of cases of trypanosomiasis the parasite sooner or later finds a hiding place in the cerebro-spinal canal, where it remains unaffected by any drugs given intravenously, subcutaneously or by the mouth and that it is by its presence in this situation that it ultimately causes the death of the patient. The author adduces arguments in favour of the contention that trypanolytic antibody may be produced, resulting in the death of the parasite. It is stated that as the action of the chorioid plexus is that of a filter, drugs (with the exception of alcohol) circulating in the blood stream are unable to reach the cerebro-spinal fluid. Instances are cited in which the intravenous injection of kharsivan appeared to have been effective in destroying trypanosomes in the blood stream, but was totally ineffective for the removal of the organisms from the cerebro-spinal fluid. The method of treatment advocated consists of an injection of the patient's own "kharsivanized" serum into the cerebro-spinal space after the withdrawal of cerebro-spinal fluid. The technique is as follows: An injection of kharsivan is given into a vein and after an interval of from one-half to four hours, a quantity of blood is withdrawn and allowed to clot for from twelve to forty-eight hours. The serum is then separated and from fifteen to twenty cubic centimetres are injected into the cerebro-spinal space after the withdrawal of a similar amount of cerebro-spinal fluid. Only one such intra-thecal injection appears to have been required in each instance. The immediate results of such injection were described as severe, a sharp rise in temperature having occurred, accompanied by intense headache; but no untoward results have been recorded. While it is not claimed that a perfect cure for trypanosomiasis has been discovered, it is maintained that the method employed is rational and based upon sound principles. The results recorded in a series of eighty patients so treated were such as to encourage the hope that in a certain proportion a cure of the disease might be effected.

Histamine.

MUCH has been written during the last twenty years concerning intestinal intoxication and it may be said that, if the condition exists, it must be due to either bacterial or chemical action. By such action toxic substances such as histamine, tyramine, etc., may be formed from the contents of the bowel. These substances are known to have a highly poisonous action if inoculated subcutaneously or intravenously into animals. It is not certain, however, that such substances are formed in the human gut or, if formed, that they are absorbed by the intestinal tract. J. MEAKINS AND C. R. HARINGTON (*Journal of Pharmacology and Experimental Therapeutics*, January, 1922) were able to demonstrate the presence of histamine in the contents of the caecum and colon in patients who had previously suffered with intestinal obstruction, but whose obstruction had been relieved for some weeks at the time of the experiments. They were not able to demonstrate the presence of histamine in human fæces. The histamine in the colonic and caecal contents was apparently in minute concentration and in very small quantity.

UROLOGY.

Infections of the Kidney.

W. C. QUINBY (*New York Medical Journal*, May 3, 1922) discusses the routes of infection of the kidney, with particular reference to the ascending path. The general view is that the majority of renal infections are though the blood stream and some ar so attracted by this doctrine that thy deny the possibility of any other mde of infection. That infection should reach the kidney by ascent frm the bladder pre-supposes the exisince of a cystitis. Although the blder is known to be very resistent to infection, a severe cystitis commaly results when stagnation or obstiction comes into play. The infectio may ascend by means of the lyphatics or by the lumen of the urer. The author states that the exerimental work favouring the form route will not stand searching cricism and that the segmental charaer of the lymphatic system about thureter makes direct transportation ofacteria highly improbable. Studies ofhe so-called ureteric reflux carried ouduring the last few years point to thprobability of intra-ureteral transmsion of infected substances from thbladder. The reflux is a sudden regitation and not a retro-peristis and is proved by observation, bo of laparotomized laboratory anim and in normal human subjects by mns of cystograms. In over one-half ofhe human subjects, sudden penetrtion of one or both ureters by sodm bromide in the bladder was se fluoroscopically. Two common clical occurrences can possibly be tah as supporting these observations. Intheter fever the bladder, for some rem more hypertonic than usual, is stilated to contract suddenly by the page of an instrument and a reflux ofportion of its infected contents up to e kidney is brought about. Absoion from the kidney into the circuion has been proved experimally and explains the quickly ensu fever. The reflux will not occur frca flaccid bladder. The favouring cotions are a certain degree of blder tonus and a more or less suddelevation of intravesical pressure. Thther clinical observation is the shi rise of temperature occasionally seen convalescence following prostatomy just after the suprapubic wo has closed sufficiently to enablhe patient to urinate *per urethr* for the first time. Examination wiften disclose tenderness at this timver one or other kidney.

Gonococcal Arthritis.

F. WRIGHT (*Urological and Cutan Review*, March, 1922) estimathat metastases in the joints occur about 2% of all cases of gonorrhœd more often in men than in wom There are broadly two types. The rovitic type, described in all book in actual practice extremely rare; he other, far more common type, a para- or periarticular inflamon involving the capsule and ligam around the joint and also the sheaths of neighbouring tendons. Accompanying these lesions in the latter type is much effusion, which collects in, as well as around, the joint cavity. Final repair may be complete without disability or be accompanied by damage varying from thickening of the ligaments up to complete ankylosis. The disease must be treated at its source in the urogenital organs. Treatment of the joint consists in rest in bed with often repeated, voluminous, hot, moist dressings. Splints or plaster casts are a mistake in the acute stages, for the joint naturally assumes the position which gives most ease, that is, where most room is allowed for the fluid in its cavity and restraint in a less favourable position is harmful. If, as the inflammation subsides, the limb does not gradually straighten out again, splints or casts are resorted to. Vaccines will help only if they are given in very much larger doses than are commonly used. Wright now commences with doses of five thousand million organisms. The injection is repeated every five or seven days, increasing the dose by one thousand million gonococci on each occasion. If promptly beneficial effects are not seen, the interval between injections is shortened to two or three days. The author has seen very few instances of constitutional reaction and has carried the dosage as high as twelve thousand million at one injection.

Non-Operative Treatment of Ureteric Calculus.

LEO BUERGER (*Medical Record*, April 1, 1922) propounds the view that cystoscopic intervention is advisable in almost all cases of ureteric stone within a short period after the stone has found lodgement in the ureter in its descent from the kidney. Most practitioners advise their patients to wait weeks or months for the stone to pass. In this period permanent damage to the ureter and kidney is very likely to occur. On the other hand, one should not intervene surgically with undue haste in descending stone. No harm and often much good may be done, however, by early cystoscopy with ureteric catheterization. In studying the clinical course, two types are encountered: Firstly, a type characterized by more or less constant pain, where intervention is demanded for relief, and, secondly, insidious types with very little pain. Dilatation of the renal pelvis will occur even in examples of the latter type. Treatment with the ureteric catheter prevents chronic hydronephrosis, both by emptying and dilating the ureter, even if the calculus is not moved. This should be done preferably in the intervals between attacks. Filiform bougies may be needed to get past the stone in the first instance and, as soon as it can be accomplished, two catheters (No. 5 or No. 6) should be passed above the stone and left *in situ* for several hours. Both catheters are then withdrawn simultaneously. By friction the calculus is very often drawn down the ureter for a varying distance or even into the bladder. It is useful to dilate or cut the opening of the ureter into the bladder before trying the two-catheter method. The interval between treatments varies according to circumstances, but is usually one week.

Trans-Peritoneal Approach to the Kidney.

W. C. QUINBY (*Journal of Urology*, August, 1921) discusses the indications for and value of anterior approach to the kidney. Approach to the kidney across the peritoneal cavity permits a more direct attack on the renal vessels than the lumbar route. The anterior route has fallen into almost complete disuse, but the author feels that in certain types of renal tumour and possibly in some cases of tuberculosis, the method is of value as a preliminary to lumbar nephrectomy. In difficult cases it is of great advantage to have the vessels controlled before manipulation of the organ takes place, when tumour cells and possibly tubercle bacilli are dispersed into the circulation by way of the vessels. A further valuable indication for the method is as an alternative to nephrectomy when the latter operation, from fibrosis following prolonged peri-nephritis, proves to be impossible. It is evident that in aneurysm of the renal artery the surgical route to the vessels should be as direct as possible. Finally, in cases of persistent renal fistula, nephrectomy being impossible, ligature of the vessels has been followed by slow but sure healing of the fistula.

Urinary Antisepsis.

E. G. DAVIS (*Journal of Urology*, March, 1921) reaches the conclusion that hitherto there has been no sound experimental or clinical proof of the fitness of any known drug for use as an internal urinary antiseptic. He gives the results of experiments performed on normal individuals. Proflavine and acri-flavine, given by mouth in a dose of one gramme, is secreted in the urine by normal individuals in sufficient concentration to render the urine an unfit culture medium for the colon bacillus and staphylococcus, provided the reaction of the urine is alkaline. This action is proved by exact cultural methods. The antiseptic action becomes evident about two hours after the drug is administered and lasts for eight hours. Preliminary experiments indicate that intravenous administration of smaller doses causes more prompt and efficient antiseptic action. The toxic limits are as yet not completely determined, but the use of commercial products of undetermined purity is to be guarded against. With the pure products used by the author, rabbits have survived with no apparent ill-effect a daily dosage for thirty days of one-half the actual antisepsis-producing dose given to man. Investigation is needed along similar lines. Results should be checked by means of exact cultural methods of the action of these drugs on patients with infections of the urinary tract not arising from some definite gross cause, such as stone, tumour or retention.

British Medical Association News.

SCIENTIFIC.

A MEETING of the New South Wales Branch of the British Medical Association was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on June 30, 1922, DR. T. W. LIPSCOMB, the President, in the chair.

Medical Journalese.

DR. F. GUY GRIFFITHS read a paper entitled "Medical Journalese and How to Write It" (see page 145).

DR. RALPH WORRALL, in opening the discussion, said that Dr. Guy Griffith's paper had made him quite nervous, as the next paper to be read was by him. Had he had the advantage of reading this paper beforehand, he certainly would have gone over his own communication more critically. He was largely in agreement with Dr. Griffiths concerning the slovenly method used by some writers of articles in medical journals. Dr. Griffiths's contribution was the product of much industry and knowledge of literature. His own ideals had been somewhat shaken. He was disappointed to hear that Carlyle and Macaulay were not all they ought to be. He had always thought that Macaulay was the most accurate of writers. Dr. Worrall had derived great pleasure from the reading of Macaulay's polished essays. He thought that medical students were so hard worked that it was impossible for them to familiarize themselves with the great classical writers. Unfortunately, the text-books they were given to read were not free from defects of style. Dr. Griffiths's paper had been prepared with insight and should be of great value to all future medical writers.

DR. R. DICK thanked Dr. Griffiths for the trouble and work he had put into his paper. It would make them more critical in reading and writing articles.

DR. G. H. ABBOTT thanked Dr. Griffiths for his interesting and amusing paper. He thought that it would be of great use to them all and he had sympathy with the feeling Dr. Griffiths must have had in writing the paper. It was a great pity that the student of medicine had no time to do anything else than to study medicine and, as a rule, did not find it possible to obtain a degree in Arts before entering the medical school. As a result, the medical practitioner often became narrow in his views and took little interest in matters outside his profession. Even at dinners the conversation among doctors was usually about professional subjects and the stories told were medical stories. He thought that it would be very useful if the Branch could devote one evening in each month to the discussion of non-medical subjects. He was sure that Dr. Griffiths would have something of interest to deliver and no doubt Dr. Worrall would be able to entertain them on the beauties of Macaulay's "Essays." Dr. Abbott believed that every medical man should have a hobby of some kind.

DR. R. GORDON CRAIG congratulated Dr. Griffiths for striking a different note to that usually heard at their meetings. His trenchant criticism cast a reflection on the fact that the medical student did not get an adequate general training. He recognized that they could not all aspire to elegance in writing, but much could be done to avoid the defects concerning which Dr. Griffiths had spoken. In America at all the "A grade" universities the course for medical undergraduates occupied seven years. The first three years were devoted to the study of the Arts, while the final four years were purely medical. In some universities an additional year had been added, during which the undergraduate was required to go into residence at a hospital before obtaining his degree. The result was that the average age at graduation was twenty-seven years, while in Australia it was about twenty-four. Dr. Craig thought that it was impossible to lengthen the medical course still further by the addition of two or three years for Arts. He wished to point out that, while Dr. Griffiths was justified in criticizing medical journalese, it would only be fair to acknowledge that the ordinary newspaper journalese was almost as bad. He held the opinion that Clifford Allbutt and Osler might be regarded as examples of medical writers of good English.

DR. T. W. LIPSCOMB thanked Dr. Griffiths for his valuable contribution. He called attention to a notice which had recently appeared concerning Sir Clifford Allbutt's book, entitled "The Composition of Scientific Papers." The third edition would be published within a few weeks. He recommended members to read a leading article in *The British Medical Journal* of April 29, 1922. The subject was medical periodicals and it contained a discussion on a very able address given by Dr. George H. Simmons, the editor of *The Journal of the American Medical Association* on medical periodical literature. Dr. Lipscomb regarded this leading article as a very valuable one.

In his reply, DR. F. GUY GRIFFITHS stated that he had a very great admiration for Macaulay. He thought that a literary section of the New South Wales Branch would be a valuable asset. He felt sure that Dr. Worrall could contribute an admirable paper on Macaulay's writings and on British poetry, of which he was a first-class judge. He thought that they should emulate the example of the Universities of Oxford and Cambridge, by requiring all undergraduates in medicine to take degrees in Arts. Literature and philosophy might be combined with preliminary scientific subjects during the first three years. He admitted that many examples of typical medical journalese had their counterpart in ordinary journalese. He agreed with Dr. Gordon Craig and others that Clifford Allbutt could be accepted as an example.

Inversion of the Uterus.

DR. RALPH WORRALL read a paper entitled "Inversion of the Uterus" (see page 158).

DR. P. L. HIPSLEY stated that inversion of the uterus was extremely rare. He had met with this disastrous accident only once. The patient was a woman, aged twenty-seven years, who had had two children. The third child had been delivered without artificial aid. There had been a severe *post partum* hæmorrhage. The placenta had then been expressed and removed. The patient had suffered intense shock and had been much collapsed, but the condition had remained unrecognized. Dr. Hipsley had first seen her three days after the confinement, when her pulse rate was 140. She was much blanched. The bladder was greatly distended and gave the impression to the examining hand of a sub-involuted uterus. The uterus was completely inverted, but was wholly within the vagina. As the patient's condition was extremely grave, he had determined to wait until the end of the week before making any attempt at restitution. The patient had then been anæsthetized and an attempt made to replace the uterus. This attempt had been given up, because the walls of the organ were very sodden and Dr. Hipsley was afraid that perforation would take place. The patient's temperature at this time was 40° C. (104° F.). He had therefore sent the patient to the Royal Hospital for Women. She had been given a transfusion of four hundred cubic centimetres of her husband's blood. At the end of the third week the patient's temperature had dropped to normal. Dr. Hipsley had decided to make another attempt to replace the uterus. When the patient was fully anæsthetized, it became obvious that mechanical reduction was not possible. He had therefore carried out Spinelli's method, which proved easy and successful. There had been some pyrexia for three weeks, but the patient had made a good recovery.

Dr. Hipsley called attention to the resemblance of an inverted uterus to a polypus or to a fibroid. The uterus in his patient had completely involuted. In discussing the question of diagnosis, he pointed out that the symptoms of shock had been attributed to the bleeding and that the condition of inversion had been overlooked, because there did not appear any obvious reason to search for a further cause for the shock.

DR. CONSTANCE E. D'ARCY also referred to difficulties of diagnosis. She had examined six patients whose condition had been diagnosed as inversion of the uterus, but who were really suffering from large polypi. Another patient was supposed to have a polypus, but the condition turned out to be inversion of the uterus. Dr. D'Arcy had attended two patients suffering from inversion of the uterus. The first patient had been attended in confinement by a student. Very slight pressure had been used to facilitate the delivery of the secundines. The whole uterus

and the vagina had been inverted and lay outside the woman's body. There was severe shock. On examination Dr. D'Arcy had found that the placenta was still unseparated. She had been fortunate in seeing the patient immediately after the inversion. She had removed the placenta, had poured hot saline solution over the bleeding site and had replaced the uterus. The reduction had been effected in the inverse direction to its production. In other words the cervix had been attacked first. Very little difficulty had been experienced and the whole procedure had been but a matter of seconds. For a short time the patient had been somewhat collapsed, but no fever had supervened and the patient had recovered without untoward symptoms. She had subsequently learnt that the patient had had a complete inversion of the uterus at her previous confinement.

The second patient had been under the care of a well trained midwife. The placenta had been expressed without difficulty and without undue force. There had been no bleeding of consequence and no shock. On the third or fourth day some elevation of temperature had occurred and douche had been given. On the sixth day the patient had been seen by Dr. D'Arcy. Prior to examination a vaginal douche had been administered, but the nurse had found that the nozzle had encountered a large mass within the vagina which bled easily. On examination it had been determined that the tumour was wholly within the vagina. The patient had been anæsthetized and the uterus reduced without difficulty from the cervical end. This patient, too, had recovered. Dr. D'Arcy thought that the ease of reduction had been to some extent due to the fact that neither ergot nor pituitrin had previously been given. She had been very interested in learning from Dr. Worrall that he disapproved of the removal of the placenta before the reduction. Her experience had been so happy that she certainly would act as she had done again in any similar case.

DR. J. L. T. ISBISTER recalled an incident from his own practice in which he had mistaken an inverted uterus for a polypus. A year before he had removed a polypus from the uterus of the same patient. As soon as the abdomen was opened, the mistake in the diagnosis had become evident. He had found it impossible to reinvert the uterus and had therefore carried out a partial excision. Dr. Isbister had seen only one instance of acute inversion of the uterus. This was when he was a student. Attempts to replace the organ had failed. The placenta had been removed, but the patient had died.

DR. C. V. BOWKER raised the question concerning the appearance of the surface of the tumour in chronic inversion. As had been pointed out by other speakers, submucous fibroids were at times confused with inverted uteri. In one case a submucous fibroid had been as large as a fœtal head and had presented at the vulva like the fœtal head. It had been diagnosed as chronic inversion. After some difficulty a sound had been passed into the uterus above the tumour. Its surface was of a smooth, whitish appearance. It was when a submucous tumour was ulcerated or sloughing that it was sometimes diagnosed as confused with inversion. As he had not seen an inverted uterus several months after the inversion, he asked Dr. Worrall would describe its external appearance.

DR. H. E. LAWES referred to the causation of inversion of the uterus. Formerly it had been taught that the cause was traction on the cord. Now it was taught that pressure on the fundus was also a cause and it would seem from the remarks of the previous speakers that it was the most frequent one. A reasonable time should be allowed to elapse after the birth of the child before expression of the placenta should be attempted. It appeared that under certain conditions very little pressure sufficed to turn the uterus inside out. It was obvious that caution should be exercised in exerting pressure on the fundus. The pressure should be light and should not be continued too long if there were delay in the delivery of the placenta. He considered it was safer to remove the placenta manually when difficulty was experienced in the third stage of labour than to continue Crédé's method of expression.

DR. W. LIPSCOMB thanked Dr. Worrall for bringing up an important matter for discussion. Dr. Worrall had drawn the attention of medical practitioners who undertook midwifery work, to what might occur and gave them guidance concerning the proper method of dealing with this emergency. As a young man he had once seen a uterus inverted after the termination of the second stage of labour. Realizing the danger of the condition, he had sent the patient to hospital and had been gratified to watch Dr. Foreman reinvert the uterus without difficulty.

DR. WORRALL, in his reply, congratulated Dr. Hipsley on the result he had obtained in the case described. He was very pleased that his paper had led to the recording of so much varied experience. Dr. D'Arcy's contention that the placenta should be removed prior to restitution of the uterus was obviously based on good grounds, namely, that of experience. It was a moot point and he still held that it would be better to leave the placenta unseparated until restoration, on account of the risk of severe bleeding. He thought that it was remarkable that so many mistakes were made in the differential diagnosis. He regarded bimanual examination a great safeguard. He always taught that the third stage of labour should not be hurried. Compression of the uterus, if undertaken, should be exerted on the anterior surface of the organ. The obstetrician should be careful not to dimple the uterus when endeavouring to express the placenta.

He had been very interested in listening to Dr. Isbister. There was little doubt concerning the justification for the performance of amputation in this case. In reply to Dr. Bowker, he pointed out that the surface of a fibroid polypus lacked the velvety softness of the inverted uterus.

Surgical Technique.

DR. W. J. STEWART MCKAY read a paper entitled "Some Points in Surgical Technique" (see page 148).

DR. R. GORDON CRAIG found that Dr. McKay had covered so much ground that it was quite impossible to criticize all the points raised. He would wish to make a few remarks concerning the securing of gauze to the edges of the wound. He had carried out some control observations in order to ascertain whether this was an essential step. After two years he had been forced to admit that the matter was still undecided. He had found in the chief surgical clinics of Europe and America that as many surgeons did not adopt this expedient as those who used it. Dr. Craig stated that he could not subscribe to the opinion that it was essential, but he admitted that it looked well. In regard to the proposition that the skin should be prepared with irritant chemicals for a period of two days prior to the operation, he stated very emphatically that this was a grave mistake. He was sure that the best safeguard was the patient's own defensive mechanism. The essential feature in the preparation of the skin was dehydration by alcohol. Whether iodine, biniodide of mercury or picric acid were dissolved in the alcohol did not matter much. He was satisfied that the success obtained in prolonged operations was due to the use of rubber gloves which prevented the transference of germs from the operator's to the patient's skin. He felt convinced that the patient could deal with his own germs.

He thought that a word of caution should be issued in connexion with the treatment of hydatid cysts. There was always a possibility that there was a secondary cyst undiscovered and that after the main cyst had been opened and drained and the ectocyst returned into the abdominal cavity, rupture of the second cyst might occur. In these cases a sudden discharge of hydatids might appear on the fourth or fifth day, with risk of general infection of the abdominal cavity. He suggested that the doctrine of treatment of hydatids without drainage be accepted with caution.

THE HONOURABLE J. B. NASH, M.L.C., congratulated Dr. McKay on the way he represented his material and on the methods he had followed in promoting the art as well as the science of surgery. Dr. Nash agreed with both Dr. McKay and Dr. Gordon Craig. All surgeons wore gloves. It was therefore seen that the suturing of gauze to the wound was an additional and a valuable procedure. In regard to hydatids, he recalled the time when patients were kept in hospital for months. Now the patients were dealt with in a modern fashion and were discharged well in a matter of weeks.

DR. P. FIASCHI, O.B.E., stated that he was reminded of the excellent advice given by the late Victor Horsley at Anzac. In relating his experimental work in connexion with brain surgery, he had stated that the best skin disinfection he knew was a mixture of one part of petrol and three parts of alcohol. Dr. Fiaschi said that he had tried this mixture in various scalp operations, even when the skin had been infected with scabies, and had found it most excellent. He pointed out that different people obtained good results by different methods. Charles McBurney had used rubber gloves and gauze protection and had obtained excellent results. Other surgeons had dispensed with gauze protection or had adopted other methods and had likewise obtained excellent results. Every man had his own way of making love.

DR. BURTON BRADLEY supposed that members would be surprised if he took part in a surgical discussion. He merely wished to point out that in regard to the question of wound infection, it appeared that, as different men using different methods obtained equally good results, there was a need for further investigation into the factors which prevented skin healing. In some regions of the body the germs occupying the skin were mere saprophytes. It was quite possible that the surgeon, by his varying means, merely made it difficult for the normal bacterial inhabitants of the skin to invade the wound. If this were so and if the protection depended on mechanical processes, antiseptic action would not enter into the question at all. He thought that an extensive investigation should be undertaken in the surgical clinic by pathologists and surgeons in collaboration to see what really happened.

DR. F. GUY GRIFFITHS referred to the treatment of hydatid disease. Formerly hydatids were dealt with by marsupialization. Thirty years ago Treves had shown that the peritoneum was capable of dealing with a considerable amount of infection. It was then resolved that the hydatid cyst should be opened and drained. Dr. Steer Bowker had been one of the earliest surgeons to carry out this method of treatment in Sydney. He had opened the abdomen, had found the hydatid cyst in the liver, had emptied, cleaned and drained it and had closed the wound. He remembered well the anxiety which had been felt at first. The patient had made a good recovery and the method had been established.

DR. STEWART MCKAY dealt first of all with the question of hydatids. He stated that his practice was to sew the cyst wall to the abdominal wall. If a secondary cyst existed, the discharge would be outwards. He referred to the work of Knowsley Thornton in this connexion. In regard to the question of gauze protection, he restated his case and again maintained that about twenty minutes after the beginning of the operation the germs began to awaken and to invade the wound. It was obviously not a question of wearing gloves, for every surgeon followed this practice. He was convinced that in operating on bones and joints, especially if large incisions were made, infection would occur unless the wound were protected by gauze.

MEDICO-POLITICAL.

A MEETING of the Queensland Branch of the British Medical Association was held on July 7, 1922, at the B.M.A. Building, Adelaide Street, Brisbane, DR. G. P. DIXON, C.B.E., the President, in the chair.

Workers' Compensation Act.

THE HONORARY SECRETARY reported that, as a result of a conference between representatives of the Council of the Branch and the Commissioner of State Insurance Department on the question of medical attendance under the provisions of the *Workers' Compensation Act*, a letter had been received informing the Council that the following instructions had been issued to the medical officers of the Department:

"(1) That where a patient, also an injured worker, is being attended by a medical man and it is thought advisable by our medical officer that the opinion of another doctor should be obtained, if from such opinion a further course of treatment is necessary, there shall be a triple consultation of patient's doctor, our medical officer and the consulted doctor regarding further treatment.

"(2) That where a patient, also an injured worker, is being treated by his medical man before our medical officer recommends massage, he shall bring the matter under the notice of the patient's doctor."

In connexion with the second instruction the Commissioner had pointed out that the departmental officer had made it a practice not to recommend massage unless the patient produced a memorandum from his own doctor recommending the employment of massage.

The Prescribing of Drugs of German Origin.

THE HONORARY SECRETARY read a letter from the Pharmaceutical Society of Queensland, embodying a resolution which had been passed by the Society and submitted to the Minister for Trade and Customs. The resolution was to the effect that it was held that the present regulations would not be effective in keeping out of Australia German drugs, etc., and consequently that it was desirable that fresh legislation should be enacted, giving the Board wider powers to impose higher tariff on German goods. The Society had sought the cooperation of the Branch in endeavouring to eliminate the use of drugs and chemicals produced in the countries of our late enemies and in advocating the employment of British and Australian products.

The Honorary Secretary stated that a reply had been sent to the effect that the Council was in sympathy with the movement of the Pharmaceutical Society of Queensland. The matter would be brought under the note of the Branch.

Unregistered Dispensers in Hospitals.

A letter was read from the Pharmacy Board of Queensland, informing the Council that an application had been made to the Home Secretary to introduce legislation providing for the registration of pharmaceutical chemists, assistants and dispensers of not less than ten years' experience. It was pointed out in the letter that hospital dispensers were asking for registration on the production of certificates of competency from the medical officers in charge of the institutions. It was contended that the Pharmacy Board was the only body that could issue such certificates. The Board asked the Council of the Queensland Branch to recommend its members to refuse to give certificates of competency to dispensers on request.

THE HONORARY SECRETARY reported that a reply had been sent to the Pharmacy Board, expressing the sympathy of the Council with the aim of the Board. The Council concurred in the contention that the Board was the only body competent to decide the fitness or otherwise of persons for registration.

ARTIFICIAL RESPIRATION.

THE COUNCIL OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION has been approached by the Royal Life Saving Society in regard to the application of artificial respiration by the Sharpey-Schafer method for the restoration of the apparently drowned. It was reported that on two occasions recently drowning persons were taken from the water and resuscitation by the Schafer method was commenced by the "life savers" of the Society. On the arrival of medical practitioners the "lifesavers" were instructed to substitute the Silvester method. The action of the medical practitioners had caused considerable perturbation among the members of the Society, and it had therefore been resolved to ask the Victorian Branch of the British Medical Association for an expression of opinion concerning the merits of the Schafer and other methods of artificial respiration.

The matter was referred to a special committee and the Council has now informed the Royal Life Saving Society that it is of opinion that the Schafer method is superior to all others and should be recommended for the resuscitation of the apparently drowned.

NOMINATIONS AND ELECTIONS.

THE undermentioned has been elected as a member of the Victorian Branch of the British Medical Association:
ADEY, JOHN KELLERMAN, M.B., 1909 (Univ. Melbourne), Hospital for the Insane, Sunbury.

CORRIGENDUM.

DR. W. H. CRAGO, the Honorary Treasurer of the Medical Officers' Relief Fund, has called our attention to a typographical error which appeared in THE MEDICAL JOURNAL OF AUSTRALIA of July 29, 1922, in connexion with the fund. The sum of money promised but not collected is £135 15s. and not £15 15s.. Dr. Crago also informs us that he has not included this sum in the total amount of the contributions, namely, £12,048 15s. 4d..

POST-GRADUATE ARRANGEMENTS IN MELBOURNE.

DR. J. H. ANDERSON, the Honorary Secretary of the Post-Graduate Committee in Melbourne, announces that if sufficient entries are received, it is proposed to hold a post-graduate class in obstetrics and diseases of women at the Women's Hospital, Melbourne, in connexion with the examination for the degree of doctor of medicine. The course would embrace ten or twelve lectures and demonstrations by the members of the staff of the hospital, delivered during the months of September and October, 1922. The class would be open to all graduates, but the teaching will have special reference to the M.D. examination. Applications to join the class should be sent at once to the Honorary Secretary of the Post-Graduate Committee.

The full post-graduate course will be held in November as usual. Full particulars will be announced at an early date.

Medical Societies.

BRISBANE HOSPITAL CLINICAL SOCIETY.

A MEETING OF THE BRISBANE HOSPITAL CLINICAL SOCIETY will be held in the Out-Patients' Department of the Brisbane Hospital on Thursday, August 17, 1922, at 8.15 p.m..

University Intelligence.

MELBOURNE UNIVERSITY.

THE following facts concerning the Clinical Research Scholarship are given to amplify the reference made to this institution in our issue of July 8, 1922.

Shortly before the outbreak of war efforts were made in University circles to commemorate the jubilee of the Medical School in a manner suited to the occasion. It was largely owing to the efforts of Dr. S. V. Sewell that a considerable amount of money was collected for the endowment of a research scholarship from medical practitioners. This sum has been increased since that time until it reached £1,246. The interest has been made available and the administration of the fund has been placed in the hands of the Council of the University of Melbourne, who act on the advice of a committee of twelve persons, eight of whom are nominated by the donors and four by the Council of the University. Vacancies among the eight nominees of the donors are filled by co-option. Since the termination of the war the scholarship has been initiated and several graduates in medicine have been appointed.

The value of the scholarship has recently been enhanced. The Council of the University has determined that the interest of £1,100, the gift of Mr. Swanton and others for medical research, should be added to the interest of the £1,246 referred to above. At the present time the value of the scholarship is £100 *per annum*. The committee of management of the Melbourne Hospital has agreed to provide board and residence for the research scholar, who is required to work under the guidance of the Director of the Walter and Eliza Hall Institute for Research in Pathology and Medicine.

Correspondence.

SUBACUTE NEPHRITIS AND EDEBOHLS'S OPERATION.

SIR: The account given by Dr. Ronald McIntosh in THE MEDICAL JOURNAL OF AUSTRALIA of June 17, 1922, of subacute nephritis and the result of an Edebohls's double decapsulation operation is of very great interest, as it is, I think, the first time this operation has been done in Australia after investigation by modern methods.

The type suitable for operation is, as Dr. McIntosh says, the chronic parenchymatous (or hydræmic), described by Horder in his report of three cases (*The British Medical Journal*, 1920, II., page 727). All concerned are to be congratulated on the success of this operation and certain points deserve further comment.

In the first place, in spite of the fact that the history, clinical findings and Wassermann reaction were all quite compatible with the cause being syphilis, no anti-syphilitic treatment seems to have been employed; yet these patients stand such treatment well and respond rapidly.

Further, although the condition seems to have been recognized from the start (although no efficiency tests were done as a routine), the diet used was rather remarkable.

Whether one adopts Epstein's or Maclean's explanation of the result, there is no doubt that these patients often do well, not on the light diet which Dr. McIntosh describes, but on very full protein diet containing 120 to 240 grammes of protein. An excellent account of a patient treated very successfully in this way is given by Clifford Allbutt (*The British Medical Journal*, 1920, I., page 359) and in Maclean ("Modern Methods: The Diagnosis and Treatment of Renal Disease," page 95). Moreover, when this diet has failed, the œdema has yielded to repeated doses of urea (Maclean, page 95).

Surely such treatment would have been worth trial before letting the patient get into the very dangerous condition Dr. McIntosh describes.

It would appear that in suitable cases Edebohls's operation holds out prospects not merely of temporary, but of very prolonged, relief, but, as in all conditions, surely early operation is important. Hence I believe that when we can diagnose hydræmic renal disease, before vascular degeneration has set in, that the operation is justifiable. For that very reason it should surely be done as early as possible and with as little risk to the patient as possible.

Is Dr. McIntosh quite correct in some of his figures, *e.g.*, Maclean's urea test is fifteen grammes of urea, not one gramme (fifteen grains); an Esbach reads to 7‰, *i.e.*, 0.7%, and sixty grains is nearer four than three grammes.

Yours, etc.,

S. F. MCDONALD, M.D., M.R.C.P..

"Lauriston," Wickham Terrace,
Brisbane, June 16, 1922.

RESEARCH ON DENGUE AND "X DISEASE."

SIR: I was pleased to note in to-day's issue of THE MEDICAL JOURNAL OF AUSTRALIA that Dr. Burton Bradley was associated with Dr. Cleland in the research carried out on dengue and "X disease."

It has been a distinct loss, in my opinion, to preventive medicine in Australia that a man with Dr. Burton Bradley's aptitude for investigation and fertility of mind, initiative and resource, has not been continuously employed in an official capacity in carrying out routine research work.

Failing the establishment of a tropical research laboratory at the University as an adjunct to a course in tropical medicine and hygiene, an attempt might be made to induce the Rockefeller Institute to endow a Research Institute in Sydney on similar lines to that to be established in London. Possibly a suggestion by the Public Health Association of Australasia that a medical research bureau on similar lines to that in South Africa, or an extension of the Commonwealth Serum Laboratory by the establishment

and co-option of a research laboratory in Sydney would give opportunities for more research in Australia.

Yours, etc.,

J. S. PURDY.

Sydney, July 1, 1922.

THE VENEREAL DISEASES CLINIC AND DERMATOLOGICAL DEPARTMENTS.

SIR: I have recently read your leading article, dated July 1, 1922, on the treatment of venereal disease. I must hasten to correct one mistake contained therein. You say, "In two hospitals only in America are the clinics divorced from the skin departments; in all other hospitals throughout the world the combination is regarded as expedient."

It seems strange that you should have overlooked the Royal Prince Alfred Hospital, Sydney, where the Clinic for Venereal Diseases is entirely divorced from the Skin Department. The Board of Directors of this hospital regards the combination as inexpedient.

Yours, etc.,

A. J. COLLINS,
Medical Superintendent.

Camperdown, Sydney,
July 6, 1922.

[THE conditions obtaining at the Royal Prince Alfred Hospital, Sydney, were not overlooked when the leading article referred to was being compiled. In 1914 the night clinics were established and the duty of looking after patients suffering from syphilitic infections was undertaken by the senior dermatologist of the hospital. At the present time the senior physician for diseases of the skin and the assistant physician for diseases of the skin are acting as the two senior medical officers in the venereal diseases clinic in so far as syphilis is concerned. A third medical officer has been appointed, who holds no other position on the staff of the hospital. In the clinic for patients suffering from gonorrhœa it appears that an independent staff has been appointed. From these facts we assume that the Board of Directors of the Royal Prince Alfred Hospital have not considered it expedient to divorce the Veneral Diseases Clinic for syphilis from the Dermatological Department.—EDITOR.]

WARMED ETHER.

SIR: Calm reason has little chance where angry passion holds unchecked sway. The questions discussed in my storm-raising paper on the heat losses connected with operations under ether anæsthesia concerned physical facts amenable to exact measurement and to numerical expression and they are not safely to be dealt with in any other way.

In my paper, after giving exact figures as to the units of heat expended in warming air, in warming ether and in moistening air, I remarked that the anæsthetist who administers warmed ether and (dry) warmed air "in the majority of ordinary cases is causing more heat loss to the patient than if he had delivered ordinary room air and cold ether."

That statement is a statement of fact, not a mere opinion. It is a fact that anyone with pencil and paper can prove for himself in two minutes and find irrefutably true. I did not invent it.

But to say what Dr. Moss has pretended that I said, that "the delivery of warmed dried anæsthetic vapours is more harmful than otherwise to the patient, the dehydration being depressing," is not the same, nor is it a paraphrase. It is a statement of an opinion. It may or may not be a fact and, in any case, the proof is not so simple that anyone can work it out in two minutes with a pencil and paper, as can be done with what I did say. The accurate observer will see that it involves and expresses an opinion on the effect produced or likely to be produced by the operation of the physical fact to which I drew attention. This is an entirely different proposition. The statement that I made is the first one. Dr. Moss is apparently not a clear thinker and believes that the two statements are the same. He has made a persistent attempt to pass off the second statement on your readers as mine. It is not mine. Dr. Moss has invented it.

When I made the statement of fact above referred to, I knew quite well what I was about. With certain minds, attention has to be arrested by a jolt, a shock to their equanimity, a surprise and perhaps a painful one. Something with a telling rhetorical effect is required and nothing is better for such a purpose than a startling paradox and the paradox was ready to hand in the statement quoted.

The device succeeded. Indeed, it has worked like a packet of crackers or like holding a red rag at a bull. The figures of heat loss that might be involved and which we might call the possible values of x, can be calculated by anybody. In my original paper I described the loss of 0.9 of a calorie per hour caused by inspiration of cold ether vapour as relatively insignificant and negligible as compared with the total heat losses of the body, which, as was shown, might amount to hundreds of calories an hour. If the plus or minus involved in the warmed dried air-ether paradox is something of the same order of magnitude as the ether-vapour loss of 0.9 calorie per hour, the reader will understand why I refused to allow Dr. Moss to say for me that I considered the quantity of heat loss to be harmful or depressing. Perhaps on some other occasion I might be allowed to discuss this topic in a short special article, when I could give illustrative figures.

So much for that. We are then told that one of the two clinical observations that most impressed Dr. Moss in reading my paper was "a statement that patients under ether are mouth brathers. Were it so, all would need a gag to keep the mouth open when the jaw is kept forward. This is not correct." The statements I did make were, on page 101: "During ether anæsthesia respiration goes on chiefly through the open mouth," and on page 118: "Nasal respiration . . . is very little employed in most cases of ether anæsthesia." Well, it won't make any difference if we convert them back into nose breathers. So let us do it. If it is important to Dr. Moss, it makes no difference to the physics of the thing.

There he raises great objection to a "dogmatic statement" of mine which is as follows: "Since air at freezing point is approaching dryness, its cooling property is relatively exhausted and, therefore, air at polar temperatures can be respired without serious increase of heat loss." The dogmatic statement is alleged, further, to be made "in a slovenly manner, as the freezing point referred to is surely that of water and not of air, as stated." Your readers will learn something of Dr. Moss's methods when I say that in the same paragraph, in a part that he carefully omits to quote, I referred, in terms, to this "freezing point" as 32° F.! And as to the "dogmatism," the really important thing is whether the statement is true or false. The "dogmatic statement" was simply the production of the actual calculated figures.

I now take up a further point. I prefaced my original article with the following aphorism from Lord Kelvin: "When you can measure what you are speaking about and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely in your thoughts advanced to the stage of science." Dr. Moss in his first letter was openly contemptuous of results sought for by methods developed along the lines of Lord Kelvin's ideal. His own methods of clinical observation were, he thought, enough to entitle him to regard results arrived at by such methods, however carefully done, as worthless trash. He belittled systematic accuracy. He belittled the wrong thing. It was his own crude system that was poor and little and fallacious by comparison and he had to be told so. Now he replies that this was "only to be expected from a man who heads his article with a quotation from a physicist" in those terms. Obviously Dr. Moss has no place for these ideals or these methods in his own work and no sympathy with those who do follow them.

Now, who are the men who do aim at clinical practice according to the ideal and along the lines indicated by Lord Kelvin? I think they include the vast majority of the readers of THE MEDICAL JOURNAL OF AUSTRALIA, for it is the ideal and the method that has rescued medicine

from the domination of futile speculation and mediæval tradition and made modern scientific medicine.

Take, for instance, the man, the Kelvinist, if I may so describe him, who undertakes the treatment of a case of diabetes. He measures the protein, the fat and the carbohydrates in the food-stuffs of the dietary and expresses the results in numbers. He measures the quantities consumed in a measured number of hours. He measures the quantity of urine passed in a measured number of hours. He measures its specific gravity. He measures the weight of sugar excreted in that measured number of hours. He puts down the result in grammes. He measures the capacity for metabolizing carbo-hydrate in that patient. Now he knows something. He has power through his knowledge and the more the factors he has been able to measure and the more accurately he can measure, the greater his power. He is not the man to despise exactness. He will welcome every little bit of knowledge so long as it is real knowledge and he will want to assess its relative importance by measurements. He does not want to be left to the poor alternative of vague impressions and clinical guess-work.

That is what scientific methods mean and what they do for us. What value do such men put on the contempt of Dr. Moss for exact knowledge? Are they likely to prefer mere opinions and impressions? The answer is certain. They prefer to know. And I am sure that the vast majority of anæsthetists are entirely of the same mind.

Yours, etc.,

C. E. CORLETTE.

Sydney, July 10, 1922.

NEMATODES IN PIGS.

SIR: In THE MEDICAL JOURNAL OF AUSTRALIA of November 5, 1921, Legg and Rheuben reported the occurrence of nematodes in semi-domesticated pigs in Queensland, which were hurriedly identified as *Anchylostoma duodenale* by Dr. G. Sweet, of the Melbourne University.

Five specimens of these worms were forwarded to Dr. Sawyer, Director of the Hookworm Campaign, who, in turn, sent them on to Professor Cort, of the Johns Hopkins School of Hygiene and Public Health. Dr. S. T. Darling was working in the laboratory of the Johns Hopkins School at that time and the specimens were submitted to him for expert judgement.

Of the five parasites examined by Dr. Darling, two were identified as *Anchylostoma duodenale* and three were specimens of *Necator americanus*. This is apparently the first time that *Necator americanus* has been found in pigs, although *Necator* of a different species were recorded from pigs in Trinidad.

In the absence of Dr. Sweet, I wish to record this finding, the importance of which is emphasized by the fact that *Necator americanus* is the predominating hookworm of man in several countries, including Australia.

Further examination of specimens retained in this laboratory confirms the finding of the above mentioned parasites.

Yours, etc.,

HAROLD E. ALBISTON.

Veterinary School, University of Melbourne,
July 17, 1922.

"NEW ZEALAND CREAM."

SIR: In your issue of July 15, 1922, you report that Dr. Litchfield, in mentioning "New Zealand Cream" at the clinical meeting held recently at the Royal Alexandra Hospital for Children, said that: "The animal fat" (contained in the "Cream") "included cod liver oil and lard, while the vegetable oil was chiefly almond oil." This statement with regard to the composition of "New Zealand Cream" is incorrect, as lard is not used in it at all and almond oil is used merely as a flavouring.

This "Cream" is a very complex mixture and consists of cod liver oil, butter fat, beef and mutton dripping, peanut oil, cotton seed oil. Glycerine and glucose are also present, along with mucilage of gum acacia, powdered tragacanth and benzoic acid.

"New Zealand Cream" seems to be well tolerated by infants and it may interest your readers to know that at the Tresillian Mothercraft School we are trying a similar cream prepared by Elliott Brothers, Limited. This can be supplied at a much cheaper rate than the pure cod liver oil emulsion.

Yours, etc.,

MARGARET H. HARPER.

139, Macquarie Street, Sydney,
July 17, 1922.

THE TREATMENT OF MALIGNANT DISEASE BY RADIATION.

SIR: In reply to Dr. Flecker's criticism[1] of my remarks on "The Treatment of Malignant Disease by Radiation," I crave space to point out to him that I not only failed to refer to the newer deep X-ray therapeutic technique, but I also omitted to mentioned superficial X-ray therapy, the various methods of applying radium and many other technical details. Strange as it may seem to Dr. Flecker, those omissions were intentional.

It should be quite apparent that I carefully avoided all reference to technique and confined my remarks to matters more vitally interesting to the general practitioner who, I considered, probably desired to know of what use radiation could be, not how it was applied.

Apparently, had I mentioned the magic word "Erlangen" all would have been well!

Dr. Flecker's further criticisms are as yet quite matters of opinion and mine is not materially altered by his quotations of cases which I have already noted in recent American journals on the subject or by claims "made in Germany."

Yours, etc.,

H. CAREW NOTT.

111, Hutt Street, Adelaide,
July 21, 1922.

THE FERRIC CHLORIDE TEST FOR DIACETIC ACID.

SIR: In the course of the discussion at a recent meeting of the Melbourne Pædiatric Society, as reported in your columns on July 22, 1922, Dr. Ivan Maxwell referred "to the fact that the ingestion of bicarbonate of soda by a normal person led to the production of a reddish brown colouration in the urine on the addition of ferric chloride" and to the resemblance of this colour to that obtained when diacetic acid is present.

Two years ago, when Dr. Maxwell first drew attention to this point, I found:

(1) Unless sufficient bicarbonate had been ingested to render the urine alkaline, no reddish brown colour was obtained on adding the iron solution.

(2) Marked effervescence occurs when the iron solution is added to the alkaline urine. Dr. Maxwell also noted this. Evolution of carbon dioxide accompanies the production of the carbonate of iron.

(3) The colour obtained is orange red and quite distinct from the rich burgundy red produced by diacetic acid.

(4) If sufficient bicarbonate has been ingested to render the urine alkaline, but if dilute acetic acid be added to the sample till it is just acid, there was no brown or red colour on adding the iron solution.

Therefore, in applying the ferric chloride test to the urine of a patient taking bicarbonate:

(*i.*) If the urine is acid there is no liability to error and a brownish red colour indicates diacetic acid.

(*ii.*) If the urine is alkaline, add dilute acetic acid till the reaction is acid; error from bicarbonate reaction is thus eliminated.

Bicarbonate ingestion does not influence the nitro-prusside test.

Yours, etc.,

A. R. SOUTHWOOD.

Adelaide, July 24, 1922.

[1] THE MEDICAL JOURNAL OF AUSTRALIA, June 24, 1922, page 703.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

THE undermentioned have been registered under the provisions of the *Medical Act, 1912 and 1915*, as duly qualified medical practitioners:

ROBERTS, JOHN LESLIE, M.B., 1922 (Univ. Sydney), Sydney.
SHELLSHEAR, KENNETH EDEN, Mem. R. Coll. Surg., Eng., 1922; Lic. R. Coll. Phys., Lond., 1922, Mitchell Street, Greenwich Point.
STUART, ADAH ANNIE MCDONALD, M.B., Ch.M., 1922 (Univ. Sydney), Rockhampton, Queensland.
WILSON, KENNETH JOSEPH GILMORE, M.B., Ch.M., 1922 (Univ. Sydney), Mental Hospital, Gladesville.

Additional Registrations:

HARRIS, HUBERT RICHARD JOSEPH, Ch.M., 1922 (Univ. Sydney), Deepwater.
HARRIS, WALTER TERENCE JOSEPH, Ch.M., 1922 (Univ. Sydney), Stockton.
CANDLISH, ROBERT SMITH, D.O.M.S., R.C.P. Lond. *et* R.C.S. Eng., Newcastle.

VICTORIA.

THE undermentioned have been registered under the provisions of the *Medical Act, 1915*, as duly qualified medical practitioners:

FLYNN, WILLIAM JAMES, M.B., B.S., 1922 (Univ. Melbourne), St. Vincent's Hospital, Melbourne.
REID, WILLIAM BREMNER, M.B. *et* Ch.B., 1921 (Univ. Edinburgh), Warrandyte.
WILCOX, STANLEY MURRAY, M.R.C.S., Eng., L.R.C.P., Lond., 1914, c.o. M. C. Lloyd, Esq., 644, Bourke Street, Melbourne.

Names of practitioners removed from the Register, under Section 9 of the *Medical Act*, for failure to notify change of address:

BELGRAVE, THOMAS BOWERMAN.
BRENNAN, JOHN MCDONALD.
COBB, JOHN FREDERICK.
DEGNER, CHARLES HENRY.
HEELEY, JOHN THEOPHILUS.
KING, HENRY KIRWAN.
LAWRENCE, HENRY.
MCCAUSLAND, EDMOND.
MORROW, ROBERT.
NORCOTT, WILLIAM BOYLE.
SETEZKE, EDGAR FERDINAND.

Medical Appointments.

DR. ROY C. MERRYWEATHER (B.M.A.), as representing the Western Australian Branch of the British Medical Association, has been appointed a member of the Board of Management of the Perth Hospital, Western Australia.

* * * *

DR. C. G. GODFREY (B.M.A.) has been appointed Acting Inspector-General of the Insane in Victoria during the absence of DR. W. E. JONES (B.M.A.) on leave.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xviii.

THE ROYAL SOCIETY OF LONDON: Foulerton Research Professorship.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C..

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney	Australian Natives' Association Ashfield and District Friendly Societies' Dispensary Balmain United Friendly Societies' Dispensary Friendly Societies Lodges at Casino Leichhardt and Petersham Dispensary Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney Marrickville United Friendly Societies' Dispensary North Sydney United Friendly Societies People's Prudential Benefit Society Phœnix Mutual Provident Society
VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne	All Institutes or Medical Dispensaries Australian Prudential Association Proprietary, Limited Manchester Unity Independent Order of Oddfellows Mutual National Provident Club National Provident Association
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane	Brisbane United Friendly Society Institute Hampden District Hospital, Kuridala, North Queensland Stannary Hills Hospital
SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide	Contract Practice Appointments at Renmark Contract Practice Appointments in South Australia
WESTERN AUSTRALIA: Honorary Secretary, Saint George's Terrace, Perth	All Contract Practice Appointments in Western Australia
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington	Friendly Society Lodges, Wellington, New Zealand

Diary for the Month.

AUG. 8.—New South Wales Branch, B.M.A.: Ethics Committee.
AUG. 9.—Western Australian Branch, B.M.A.: Council.
AUG. 9.—Melbourne Pædiatric Society.
AUG. 10.—City Medical Association, New South Wales.
AUG. 10.—North-Eastern Medical Association, Bangalow, New South Wales.
AUG. 11.—New South Wales Branch, B.M.A.: Clinical Meeting.
AUG. 11.—Queensland Branch, B.M.A.: Council.
AUG. 11.—South Australian Branch, B.M.A.: Council.
AUG. 15.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
AUG. 15.—Illawarra Suburbs Medical Association, New South Wales.
AUG. 16.—Western Australian Branch, B.M.A.: Branch.
AUG. 17.—Victorian Branch, B.M.A.: Council.
AUG. 17.—Brisbane Hospital Clinical Society: Meeting.
AUG. 22.—New South Wales Branch, B.M.A.: Medical Politics Committee; Organization and Science Committee.
AUG. 24.—Brisbane Hospital for Sick Children: Clinical Meeting.
AUG. 25.—New South Wales Branch, B.M.A.: Branch.

Editorial Notices.

MANUSCRIPTS forwarded the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, B.M.A. Building, 30-34, Elizabeth Street, Sydney. (Telephone: B. 4635.)

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